THE INDUSTRIAL EVOLUTION OF INDIA

THE INDUSTRIAL EVOLUTION OF INDIA IN RECENT TIMES

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PREFACE TO THE FOURTH EDITION

It will appear from former prefaces that the core of this work was written some nineteen years ago as a research thesis. After publication it attained, unfortunately for the author, the status of a textbook. Unfortunately, because this has entailed on him the responsibility of constantly bringing the work up-to-date. The problem thus created has been met with in different ways at different times. In the first instance, a long new chapter was written to cover the period after 1914; at the second time, this chapter was revised and added to keep it abreast of the times. When a fresh need for re-issue was felt, the problem was merely shirked and a reprint of the third edition went forth. This time the publishers hold that some reference to recent years is urgently called for, and their opinion appears reasonable. At the same time it was felt that it would be inadvisable to try to recast the existing chapters and it was also not possible to write a full new chapter. The solution to this difficulty has been found by putting in this long preface to the fourth edition of the work. The process of constantly bringing up-to-date a book which was initially written as a single whole can hardly ever be satisfactory. It becomes all the more unsatisfactory when the author finds that he would like today to put a number of things in a manner a good deal different from the way in which he presented them twenty years ago. The heroic way of dealing with the situation would, of course, be to write a new book. Lacking both the time and energy to do this, I have refrained from interfering with any part of the older book and have confined myself in this preface to offering certain general observations on recent trends in the economic history of India with particular reference to the history of the past decade.

The two events which seem to dominate the economic history of India during the period 1929-39 are (*i*) the world depression and its aftermath and (*ii*) the emergence of provincial autonomy. The effects of the former are a familiar theme all over the world, and they do not show any considerable variation in their incidence on India. The latter represents a definitely new factor whose effects, however, are difficult to evaluate, and they also vary considerably from province to province. A brief look at the condition of the agriculturist during the decade will bring out well the importance of both these factors. The world depression had a twofold effect on agricultural prices. It lowered them absolutely, and it also lowered them relatively to prices of other types of goods. The absolute money income of the agriculturist fell to an enormous extent; it also fell in terms of non-agricultural commodities. Some idea of the extent of this fall may be obtained from the calculations put forward in the annual *Review of the Trade of India* regarding the decline in

the value of agricultural produce in different provinces of India during the years of the depression. (See Table No. 1 at end of preface.) A measure of the latter phenomenon can be had from the spread between the prices of agricultural and non-agricultural products during these years. The most convenient index in India of this spread is the difference between the index numbers of exported and imported commodities. (See Table No. 2 at end of preface.) The statistics make it clear that the agriculturist must have suffered very severely during the period. The absolute fall in money income has relation to the debt, interest, revenue and other fixed money burdens on the agriculturist ; the relative fall is related to his requirements of non-agricultural commodities. The exact extent to which, in a region, any group of agriculturists suffered during the depression would depend upon these two sets of relations. Where the agriculturist was, before the depression, not much in debt, where the burden of the land revenue and other taxes was light, where his crops were diversified and his economy largely self-sufficient, the severity of the crisis would be considerably mitigated for him. In the contrary circumstances he would feel its fullest force. It is unfortunate that for no part of India have we a full account of the incidence of the depression on any group of agriculturists. (For a summary of the results of certain inquiries and estimates especially in relation to the debt position see Sivaswamy, *Legislative Protection and Relief of Agriculturist Debtors in India*, Note I, pp. 16-24[1]). We have, therefore, little knowledge about the manner in which the Indian agriculturist lived through it, and its ultimate effects on his economic position. One thing alone seems certain. It is that India was perhaps the one important country in the world in which the State did almost nothing to help the agriculturist through the crisis. On the question of price policy—which, under Indian conditions, may be said to constitute the one major positive instrument for combating the depression—the Government of India which ruled it was swayed by considerations very remote from those of the welfare of the agriculturist. That policy, therefore, bore no relation to the needs of the agriculturist. As regards controlled production—which of course was much more difficult—an abortive Crop Planning Conference could arrive at no helpful conclusions. In the provinces, which almost till the lifting of the depression remained under the older constitution, the action taken differed in character and extent in a very considerable measure. The two neighbouring provinces of Bombay and C. P. present, for example, a sharp contrast in this respect. In Bombay nothing whatever was attempted till 1937, while

[1] SIVASWAMY, K. G. Gokhale Institute of Politics and Economics Publication No. 6.

in the Central Provinces the policy adopted was perhaps more comprehensive than in other parts of India.

Government action might be divided into three classes. Firstly as to the revenue demand of Government it was only in the United Provinces that a radical step was taken to meet the situation created by the depression. In this province an immediate grant of remissions on a large scale was made and Government went so far as to specially consider whether it was possible to adopt a permanent scheme of fluctuating assessments and rents to meet major variations in prices. In most other provinces, the older system of suspending or remitting revenue demand was retained with a greater or less allowance being made for the price situation. The next and perhaps the most important aspect of Government policy everywhere is that relating to the debt situation. In most countries the preliminary measures was the declaration of a moratorium. In no province in India was any step taken in this regard. The nearest approach to a moratorium was the U. P. notification regarding sales of agricultural land (1932). The next step is the adjustment and scaling down of debts. Here the only steps taken during the period of the depression proper were by two provinces in two different directions. In U. P. automatic scaling down, in some cases, was brought about by the U. P. Agriculturists' Relief Act (1934). In the Central Provinces, the method of voluntary conciliation was adopted and enforced by the C. P. Debt Conciliation Act (1933). Nowhere else was anything done at this stage to deal with the depression as such. Acts to regulate money-lending were passed or thought of in certain other provinces. It will, however, be realized that the general regulation of the structure of rural credit is a long-range problem which is not specifically raised by the depression, though perhaps rendered acute by it. The depression proper may be said to have lifted by about 1936-7. It was just at this period that the popular ministries under the new scheme of provincial autonomy began to function. As was inevitable, most of these ministries addressed themselves to the acute agrarian problem. The policies they adopted were, however, dominated by the plans and concepts evolved elsewhere during the depression to meet that specific phenomenon. Thus we find a number of attempts at moratoria and scaling down legislation which might perhaps have been useful five years earlier, and for which the time had mostly passed when they were thought of or enacted. And this dominance of concepts born at the time of the depression rendered the new popular ministries unable to visualize the long-range problem—with which chiefly they should have concerned themselves—in its proper perspective. Further in a large number of provinces these ministries were short-lived. They were, therefore, unable to follow up administratively or suitably modify their legislative programme of relief. Thus while

for the period from 1936 to 1939 the emergence of provincial autonomy created a great deal of stir and raised legitimate hopes, in actual result the relief obtained by the agriculturist was very small. All that has been said regarding debt control legislation applies equally to the third type of Government action, the positive measures for helping the agriculturist. During the depression, provincial Governments were for the most part indifferent ; and the later popular Governments had ordinarily not got beyond the stage of framing schemes when war brought their life or their activities to an end. This may be illustrated by the instance of the action taken in regard to the marketing of agricultural produce. This had, during the thirties, come to be greatly helped and regulated by Government action in most countries of the world. It was also a direction in which more was perhaps done in India than in any other. Yet even here the positive work accomplished was comparatively small. The Imperial Government helped in the planning and conduct of all-India surveys of the marketing of important commodities—a work which is still under progress. With the advent of provincial autonomy certain measures of marketing legislation were contemplated or passed, and in some provinces a Government organization was set up to bring about more orderly marketing of agricultural produce. But this organization had nowhere reached the stage of doing anything active at the outbreak of the war.

It is again the joint effect of the depression and the extension of popular Government that tenancy legislation came to the fore in this decade. Tenancy legislation in its origin in British India, was directed towards maintaining inviolate the older system of rights and usages which had presumably been disturbed during the early stages of British occupation. Gradually the scope of this legislation had been extended so as to bring within its protection a larger and larger class of the more stable tenantry. The method adopted in these extensions was still the older one of giving protection against eviction or enhancement of rent to those who had been in cultivating possession of the land for a fixed period of time. The more direct method of protecting the actual cultivating-tenant as such, adopted in the C. P. Tenancy Act (1898), was nowhere else imitated. The older approach had, in some provinces, led to very considerable sub-infeudation and had left in all areas the problem of the sub-tenant untouched. So that in those parts of the country in which sub-leasing was common, the actual tiller of the soil remained at the mercy of superior holders. During the thirties, tenancy legislation in zamindari provinces such as U.P., Bihar and Bengal was largely concerned with the protection of the sub-tenant. Attention was also paid for the first time to the problem of tenant protection in the rayatwari provinces of Bombay and Madras.

Bombay took the lead in passing the first tenancy act for rayatwari areas in 1939. The dominance of the older concepts is shown by the fact that in this new Bombay act, the mode of protection adopted was still the one evolved in the 19th century in the zamindari provinces even though the problem was clearly that of guaranteeing security and justice to the cultivating tenant and not that of maintaining a system of established rights.

The Co-operative Movement in India was very severely tried by the impact of the depression. Even in countries where it had previously been organized on very sound lines, co-operation experienced some setback during this period. It was, therefore, not surprising that the movement should suffer specially severely in India. An added consideration was that while the agriculturist and co-operative societies were almost everywhere else helped by the State to weather the storm, in India no such help was forthcoming and everybody was left much to his own devices. The result was that, especially in those provinces in which the organization had previously been built up in a defective manner or where its financial strength was low, the movement virtually broke down. Such, for example, was the case in Berar. Where the movement had always been under considerable official surveillance or where its financial assets were large, the results were not so disastrous. Everywhere, however, a number of the weaker units had to be liquidated, the recoveries declined and the overdues increased in alarming proportions.

The depression and its aftermath emphasize some lessons in respect of co-operation in India. Firstly it indicated that over large areas the initial defect of the movement—not being properly interwoven with the pattern of rural life—still persisted. It was looked upon as and largely remained an external force. As such it was not adequately equipped to meet the crisis or help the agriculturist. Secondly it was also made clear that in spite of this partial failure it remained the only hope of the people. Thus when the popular Governments began to investigate the problem of agencies in carrying out their programmes of rural development, they decided in the large majority of cases to depend upon the nucleus of the co-operative organization already in existence. Thirdly it was found that even in the provinces in which the movement was strongest, its existing strength and scope were too small for it to carry out the work of a widespread or comprehensive reconstruction programme. The problem was thus to develop the existing organization at a pace rapid enough to meet adequately the needs of a national rural policy. The problem had only just begun to be appreciated in that form on the eve of the war, and the movement was then on the brink of a crucial experimental stage. Whenever normal life is resumed, it is at this point that the problem must be taken up.

cause no surprise, but the increased production of cotton textile factories is apparently against the general trend. The production of Indian factories is mostly consumed within the country. Their increased production cannot, therefore, be explained by reference to the growth of external markets as in the case of Japan. It is true that during this time Indian production displaced imports to some extent, especially from Lancashire, from their position in the Indian market ; but statistics show that not only the total production of factories but also the estimated production of handlooms and even the estimated per capita consumption of cloth in India during the period remained at a higher level than the pre-depression average. (See Table No. 4 at end of preface.) A possible explanation is that this was the result of the fall in the prices of cotton manufactures. This fall was larger than in the prices of most other manufactured products, and might have helped to maintain the consumption of cloth in the country. It is to be noted that even after 1936-7, the prices of cotton manufactures did not rise appreciably but remained at a low level.

A very sharp drop during the depression and a low level during the subsequent period also characterized the prices of jute manufactures. The most important feature of the history of the jute industry during the thirties was the lengthy breakdown of the regulation of hours of work which had for many years become established in it. This was due to the increase in the number of mills outside the Indian Jute Mills Association, which was the organization originating and enforcing the regulation. The internal regulation of the Jute Mills Association had, therefore, to be supplemented for some years by agreements with these outside mills. The depression considerably worsened the situation for the Association. While on the one hand severer internal regulation was thought to be indicated, such regulation increased the comparative advantage of the position of the non-Association mills and so made the regulation more irksome to members. Consequently the Association found that at all times of acute crisis during this period, it became increasingly difficult to obtain an agreement among members as to regulation and also to come to terms with the outsiders. The strict regulation of the earlier period had not been associated with a policy of regulating the increase of establishments or of looms, and had thus created a permanent state of excess capacity whose results were now specially severely felt. The good offices of the Government of Bengal were sometimes obtained to secure agreements and to enforce regulations. Finally, however, when even these failed, the provincial Government promulgated a temporary ordinance (September 1938) for the regulation of hours of work and for the control of machinery, and threatened to enact a permanent measure if no voluntary agreement had, mean-

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while, been reached. This had the desired effect and it was expected that the voluntary agreement reached in 1939 had a sounder basis than the previous arrangements and might lead to a satisfactory permanent solution of the difficulties.

As a producers' goods industry, iron and steel experienced a heavy fall in production in the world as a whole. In India, however, the decline was both small and temporary. (See Table No. 5 at end of preface.) A distinction should be made between the production of pig-iron and steel products. While the production of pig-iron, a part of which was destined for export, suffered the expected decline, the production of finished steel continued to expand steadily throughout the depression. For steel products, the Indian industry had a sheltered market throughout the period; for though the period for which protection had been extended in 1927 ended in 1934 it was continued for a further period on the ground of possible dumping by continental producers. After 1935 the Indian Industry shared in the general prosperity ushered throughout the world by the rearmament programmes of all countries.

It is not necessary to refer in detail to other industries such as cement, paper, matches etc. The progress of these industries was even and comparatively unaffected by the depression. The principal mineral industry, coal, on the other hand, suffered a good deal in the depression. (See Table No. 5.) It should be remembered that the production and consumption of coal in India is only partially dependent on industrial activity in the country. A large part of the demand for Indian coal is for bunker coal, by railways and for export. The fortunes of the coal industry are, in this manner, bound up to a considerable extent with internal and external trade. The Indian coal industry was, therefore, in a comparatively depressed condition till 1936-7 and recovered only with the general trade recovery which took place in and after that year.

Barring a general expansion in industrial production, no special features in the history of the various Indian Industries call for comment. The cotton industry progressed along lines indicated in the earlier decade as also did the iron and steel industry. The cement and the sugar industries which early occupied the whole home market raised problems regarding the control of prices and of production. Control of locational distribution was also brought to the foreground as a result of the expansion of the latter industry. But the lack of a positive policy on the part of the Government of India delayed the tackling of these problems in any systematic manner. Indeed this non-emergence of a positive economic policy might be considered the most striking feature of the economic history of the decade 1929-39. While in all countries of the world old prejudices were rapidly thrown over and an enormous amount of experimentation in the

direction and control of economic life was undertaken, India alone marked time.

Though no new economic policy was evolved, certain important all-India measures were passed during the decade. These were the Companies Act (1937) (which covered also the Banking Companies), the Insurance Act (1938) and the Motor Vehicles Act (1939). These acts were mainly concerned with bringing about a more detailed regulation of the establishment and working of the various types of concerns on lines recognized in most other countries of the world, modified in the light of Indian experience. In the case of company regulation, in only one important matter was there need to pay special attention to Indian conditions. This was the regulation of the 'managing agency' system. The most important change brought about in this regard was the limitation of a term of 20 years put to all future managing agency agreements, and the automatic termination of all past agreements, at a date 20 years after the passing of the Act if they had not terminated earlier. Certain other restrictions have also been placed on the managing agency agreements in the Act but these are not expected to bring about a material change in the working of the system. The Motor Vehicles Act dealt with the new problem of rail-road competition and, by setting up a system of regional licensing, mostly followed the principles of regulation evolved elsewhere. Another important piece of all-India legislation was the Factory Act (1934). This implemented to a large extent the recommendations of the Royal Commission on Labour, its important provision being the reduction of the maximum daily and weekly limits of the hours of work from 11 and 60 to 10 and 54 in the case of perennial factories.

During the first part of the decade, the depression kept the labour movement in the country in an inactive state. After 1936-7 the greater profits obtained by industrial companies and the advent of the popular ministries changed this situation materially. A very large number of labour disputes took place in 1937 and 1938 and attempts were made with varying success in the different provinces to settle the more important of these by *ad hoc* tribunals, committees, etc. A number of provincial Governments also appointed committees to review general or particular labour problems. In almost no case, however, has any action been taken on the recommendations of these committees. Two innovations in the regulation of the relation of labourers and employers may, however, be noticed. Both of these were introduced in the province of Bombay. The first was incorporated in the Trades Disputes Conciliation Act (1934) which initiated the system of the appointment of Government labour officers to look after the interests, especially, of unorganized labour. The second was the elaborate attempt to regulate the initiation and course of

disputes and the introduction of the principle of compulsory conciliation in the Bombay Industrial Disputes Act (1938).

It might seem as if the sphere of foreign trade this decade was more eventful than in any other. The depression led naturally to a very considerable contraction of international trade and this, together with the general political situation, led to a new orientation of Government policy on this subject. The definite adoption of Imperial Preference and the official and non-official bilateral trade agreements (e.g. the cotton agreement with Japan and the Mody-Lees Pact) indicate a very considerable departure from former conditions. Here again the policy had reference mainly to external forces and to interests other than those of India. The period between this change of policy and the declaration of the war was too short to reveal whether it would affect the character of India's foreign trade in any material manner. Indeed a statistical survey over a 25-year period shows no change in the main pattern of this trade. A comparison of the average of three appropriate three-year periods (1911-12 to 1913-14 : 1926-7 to 1928-9 : 1936-7 to 1938-9) will make this clear. (See Tables Nos. 6 and 7.) Of these periods the last does not include Burma and is, therefore, not strictly comparable with the first two. The chief difference made by the exclusion of Burma is the increase in the importance of grain, pulse and flour, oils and wood and timber in the list of imports to India and the diminution in the importance of grain, pulse and flour in the list of exports from India. Allowing for these differences made by the exclusion of Burma, it will be observed that over all the three periods, while individual commodity groups change places, the pattern as a whole remains the same. In exports, apart from the main changes noticed elsewhere in the composition of the jute and cotton raw and manufactured groups and the oil-seeds group, there is little that invites comment. In imports, the important changes are the extinction during the last period of sugar imports and the great diminution in the value of the imports of cotton manufactures. The changes in the direction of trade are perhaps more remarkable, but they do not equally affect general economic conditions.

In the economic policy of the British in India three phases may be clearly discerned. The first was the phase of acquisition. During this phase all means were adopted to conquer and bring under political subjugation one part of the country after another. At this stage no other aim could command attention. The second phase was that of consolidation. In this period the basis of military control was strengthened and a suitable administrative machinery evolved. This stage, though peaceful, was one in which were experienced the difficulties of the transition from indigenous rule under traditional ideas and an older technique to a foreign rule and conditions progressively

influenced by a newer technique. The third stage was that of exploitation. This was the stage in which the British attempted with the help of the newer technique to exploit the natural resources of the country. In this connexion it is well to bear in mind the difference made by foreign rule to the aims and the degree of this exploitation. The nature of policy was dictated by the conditions of its inception and administration, and the aims were not influenced by the larger social or regional factors. The extent and scope of the activity were limited by the fact of a superimposed foreign administrative machinery. A centralized bureaucracy was, in the main, both the planning and administering organ. Hence the policies necessarily lacked the human and the local touch, and the measures devised were chiefly such as could be simultaneously applied over large areas. The element of unity in the economic history of India, for the last 100 years, is thus one which is the result mainly of external factors. It is the unity imposed by the fact of an all-embracing foreign rule. The economic policy of the state, owing to the circumstances of its origin, was largely negative ; that is, it relied almost entirely upon private agency of the appropriate type for exploitation. The positive element was reflected only in such activities as famine relief programmes or the building of large irrigation works or railways. This classification of stages of economic policy applies to the period up to the beginning of the first World War of this century. The period 1919 to 1939 is essentially one of transition. In it the specific Indian point of view began to have some influence. Some new positive policies, notably that of fiscal protection, were adopted ; the administration of these policies, however, as in the case of protection, still remained negative in spirit. Moreover till the advent of provincial autonomy the detailed problems of regional development and adaptation were visualized only sporadically and in some areas. And even where beginnings in this direction were made, the general prejudices and the financial limitations imposed by the political and administrative structure made it impossible to visualize an integrated policy of reconstruction. The Second World War is expected to mark the end of this transitional period. A positive economic policy might henceforward become not only a desideratum but an imperative necessity, and in this case the larger social and the regional elements will have to be emphasized. It might thus become increasingly more difficult to write of the general economic history of India.

Table No. 1

Value of Total Production of the Principal Crops in each Province

(In Lakhs of Rupees)

Provinces	1928-9	1931-2	1932-3	1933-34
Madras	1,80,78	1,01,25	99,33	83,17
Bombay	1,20,52	66,56	83,86	60,52
Bengal	2,32,59	1,06,71	90,54	95,56
United Provinces	1,40,52	92,21	91,01	85,65
Punjab	76,78	37,49	48,53	40,11
Burma	63,38	29,20	29,45	23,26
Bihar and Orissa	1,35,17	71,05	56,55	54,63
Central Provinces	68,77	32,42	35,40	30,33
Total ...	10,18,51	5,36,89	5,34,67	4,73,23

Table No. 2

Index Nos. of Price Level for Exported and Imported Commodities

Year	Exports	Imports
1927-8	100,0	100,0
1928-9	97,5	96,4
1929-30	90,2	93,2
1930-31	71,5	80,0
1931-2	59,2	71,7
1932-3	55,3	65,2
1933-4	53,5	63,5
1934-5	54,1	63,0
1935-6	56,9	62,1
1936-7	57,2	62,8

TABLE NO. 3

REFINED SUGAR AVAILABLE FOR CONSUMPTION IN INDIA (INCLUDING BURMA)

(All Figures are in Thousand Tons)

Year	Production	Imports	Exports	Net retained for consumption
1926-7	121	827	45	903
1927-8	120	726	57	789
1928-9	99	869	48	920
1929-30... ...	111	940	42	1,009
1930-31... ...	152	901	43	1,010
1931-2	228	516	35	709
1932-3	370	370	32	708
1933-4	515	261	47	729
1934-5	617	223	37	803
1935-6	962	201	29	1,134

TABLE NO. 4

PRODUCTION AND CONSUMPTION OF COTTON PIECE-GOODS IN INDIA

Year	Net Imports, Crore Yards	Net Available Mill Production, Crore Yards	Handloom Production, Crore Yards	Net Available for Consumption	
				Total, Crore Yards	Per-Capita Yards
1926-7	176	206	133	515	15,15
1927-8	194	219	131	544	16,00
1928-9	191	174	108	473	13,52
1929-30	190	229	140	559	15,97
1930-31	87	246	139	472	13,49
1931-2	76	288	150	514	14,28
1932-3	120	311	170	601	16,70
1933-4	77	289	144	510	14,17
1934-5	97	334	146	577	15,60
1935-6	97	350	166	613	16,57
1936-7	79	347	149	575	15,54

TABLE NO. 5

PRODUCTION IN CERTAIN INDUSTRIES

Year	Cotton Piece-Goods	Coal	Year	Pig-Iron	Finished Steel
	Thousand Yards	Thousand Tons		Thousand Tons	Thousand Tons
1929	1,756,644	23,419	1929-30	1,376	412
1930	1,927,791	23,803	1930-31	1,140	434
1931	2,253,779	21,716	1931-2	1,070	450
1932	2,439,447	20,153	1932-3	880	442
1933	2,257,422	19,789	1933-4	1,109	551
1934	2,551,441	22,057	1934-5	1,343	627
1935	2,756,120	23,017	1935-6	1,541	677
1936	2,726,687	22,611	1936-7	1,557	692
1937	3,078,079	25,036	1937-8	1,644	668
1938	3,368,558	28,343	1938-9	1,576	726

TABLE NO. 6

AVERAGE VALUES OF EXPORTS OF IMPORTANT COMMODITIES

(In Lakhs of Rupees)

Serial No.	Average for 1911-2 to 1913-4		Average for 1926-7 to 1928-9		Average for 1936-7 to 1938-9	
	Commodity	Value	Commodity	Value	Commodity	Value
1	Grain Pulse and Flour	5231.02	Jute Raw and Manufactured	8614.74	Jute Raw and Manufactured	4205.76
2	Jute Raw and Manufactured	4919.48	Cotton Raw and Manufactured	6708.15	Cotton Raw and Manufactured	3993.60
3	Cotton Raw and Manufactured	4430.56	Grain Pulse and Flour	3895.45	Tea	2257.18
4	Seeds	2510.83	Tea	2937.57	Seeds	1591.60
5	Tea	1373.85	Seeds	2513.53	Grain Pulse and Flour	1086.98
6	Hides and Skins Raw	1097.82	Leather	858.57	Leather	663.12
7	Leather	445.30	Hides and Skins Raw	851.63	Metals and Ores	635.19
8	Wool Raw and Manufactured	274.49	Metals and Ores	836.52	Hides and Skins Raw	444.06
9	Lac	203.10	Lac	703.45	Wool Raw and Manufactured	377.07
10	Metals and Ores	178.63	Wool Raw and Manufactured	530.79	Oil Cake	256.90
11	Oil Cake	121.63	Oil Cake	317.04	Fruits and Vegetables	201.65
12	Oils	114.51	Rubber Raw	239.03	Tobacco	189.25
13	Spices	92.53	Paraffin Wax	224.20	Lac	174.35
14	Coir	85.39	Spices	184.91	Mica	118.86
15	Coal and Coke	78.23	Tobacco	113.25	Paraffin Wax	94.53
	Paraffin Wax	59.91	Coir	106.62	Oils	91.46
	Rubber Raw	57.47	Mica	97.24	Coir	90.47
	Fruits and Vegetables	52.43	Fruits and Vegetables	97.15	Rubber	86.48
	Mica	42.58	Oils	84.44	Coal and Coke	78.48
	Tobacco	42.35	Coal and Coke	76.53	Spices	75.85
	Total Exports	235,79.87	Total Exports	316,90.57	Total Exports	179,94.68

TABLE NO. 7

AVERAGE VALUES OF IMPORTS OF IMPORTANT COMMODITIES

(In Lakhs of Rupees)

Serial No.	Average for 1911-2 to 1913-4		Average for 1926-7 to 1928-9		Average for 1936-7 to 1938-9	
	Commodity	Value	Commodity	Value	Commodity	Value
1	Cotton and Cotton Goods ...	6042.43	Cotton and Cotton Goods ...	6971.15	Cotton and Cotton Goods ...	2455.80
2	Metals and Ores ...	1679.03	Metals and Ores ...	2642.21	Machinery and Mill Work ...	1677.88
3	Sugar ...	1372.30	Sugar ...	1656.19	Oils ...	1385.89
4	Machinery and Mill Work ...	581.08	Machinery and Mill Work ...	1597.64	Metals and Ores ...	1131.52
5	Silk Raw and Manufactured	428.04	Oils ...	1060.23	Grain Pulse and Flour ...	888.44
6	Oils ...	421.16	Vehicles ...	836.63	Vehicles ...	672.76
7	Hardware ...	386.96	Provisions & Oilman's Stores	613.16	Instruments and Apparatus	572.60
8	Wool Raw & Manufactured	357.33	Hardware ...	518.11	Paper and Paste Board ...	339.74
9	Provision & Oilman's Stores	225.34	Wool Raw & Manufactured	495.02	Dyeing ...	335.53
10	Liquors ...	200.62	Silk Raw and Manufactured	488.62	Wool Raw & Manufactured	327.57
11	Instruments and Apparatus...	156.11	Grain Pulse and Flour ...	465.07	Chemicals ...	303.43
12	Vehicles ...	146.81	Instruments and Apparatus...	446.47	Hardware ...	295.95
13	Paper and Paste Board ...	140.37	Liquors ...	359.00	Provisions & Oilman's Stores	276.32
14	Dyeing ...	128.53	Paper and Paste Board ...	312.92	Silk Raw and Manufactured	240.53
15	Drugs and Medicines ...	108.88	Dyeing ...	253.70	Liquors ...	226.93
	Chemicals ...	97.08	Chemicals ...	252.41	Drugs and Medicines ...	221.24
	Wood and Timber ...	74.42	Drugs and Medicines ...	196.81	Wood and Timber ...	211.32
	Grain Pulse and Flour ...	17.93	Wood and Timber ...	79.64	Sugar ...	29.36
	Total Imports ...	160,94.05	Total Imports ...	244,79.11	Total Imports ...	150,45.20

PREFACE TO THE THIRD EDITION

A NUMBER of statistical tables have been enlarged and some new matter has been added in the last chapter to bring the book up-to-date. Otherwise no important changes have been introduced in this edition.

PREFACE TO THE SECOND EDITION

ONLY a few changes, mostly of an unimportant character, have been made in the reprinting of the first edition. I have omitted the bibliography as it was already disproportionately long and would have become much longer if I had tried to bring it to date.

It was necessary in bringing out a second edition to continue this sketch of Indian Industrial Evolution to the present ; and I have done this by adding a new chapter dealing with all aspects of the period after 1914. I have chosen this course, as to incorporate the new material at various places in the old chapter would have entailed too great an overhauling of the original text. The extent, then, of the modification of conclusions, etc., necessitated by the events of the War and post-War periods, is indicated in the new additional chapter, the main body of the work being still a sketch of evolution up to 1914.

I have to thank many friends for help in the preparation and printing of this edition ; amongst these, I must make particular mention of Mr S. R. Deshpande, B.Litt, (Oxon.), of the Bombay Labour Office. He has rendered me invaluable service by bringing to my notice various publications and by making many valuable suggestions and criticisms.

PREFACE TO THE FIRST EDITION

THE work now published was first written as a thesis for the degree of Master of Letters of Cambridge University. It is printed here—except for a few verbal alterations—almost in the same form as the thesis. What has been attempted in the following pages is a sketch of the economic history of India from the fifties of the last century to the beginning of the War in 1914. I have not brought this sketch up-to-date, mainly because of the fact that the shock imparted by the War to the economic equilibrium of the world has been very great ; and the conditions obtaining even today are not normal enough to enable us to measure accurately the effects of the events of the last decade.

The subject is a wide one; and yet the only dramatic event in this economic transition is, perhaps, the decline of the old handicrafts. The collapse of these was indeed sudden and complete. In other respects the events move on with a slow pace and a dull monotony. The most considerable change has been in the scope and methods of commerce—a change brought about by the great development of the methods of transport, especially since the fifties of the last century. This great development of transport facilities during the latter half of the nineteenth century has, indeed, been put forward as a reason for the slow and one-sided progress of the industrial revolution in India. It might well be argued that a less rapid spread of the means of communication might have given a breathing-space to the old handicrafts in which to readjust their organization and their methods to the new conditions. On the other hand, it might be said that this would have meant only stagnation. In the domain of agriculture the most considerable change has been the commercialization of agriculture. But the really serious aspect of the question is the problem of population. The burden on land seems if anything, to be increasing, as is evidenced by the steady proportion of the food-grain area in the total area cultivated, in spite of the rapid increase, during the last few decades, in the area of land under the plough. This fact also saliently brings out the close connexion between agricultural and industrial prosperity, and the necessity of a greater impetus to the growth of industries for relieving the pressure on land. The chief progress in the industries was made by two factory industries and one plantation industry. Otherwise the progress is small, disconnected and decidedly one-sided. It must be here pointed out that we have no reason to believe that the economic conditions obtaining in India are very different from those which obtained in the West in former times. I have tried to show, especially in the remarks about the scarcity of factory labour and in the chapter on the organization of urban industries, that the lines of evolution have been the same as have been noticed in most countries of the West. The future is not so rosy as one would like to believe. A sudden growth of industries, such as took place in many European countries during the nineteenth century, seems improbable. The progress will be slow. No big industries requiring complicated machinery or a thorough use of by-products are likely to spring up. The chief direction of the progress will be that of the accessory industries and industries chiefly connected with agricultural operations or with the further working up of raw agricultural produce grown in the country.

The subject I have chosen is a very wide and a difficult one and I found it impossible to treat it with any fullness within the space usually permitted for a thesis. Consequently, I have had to omit many important aspects, e.g., the growth of banking, from considera-

tion, and also to be satisfied with a mere mention of many other questions. I have attempted to sketch briefly the course of recent economic history, and to estimate the nature and extent of the changes in organization of Indian agriculture and industry. I can lay no claim to any novel views or even originality of treatment. My only excuse for embarking upon such a difficult task is the almost entire absence of any works on the recent economic history of India; and I shall feel amply repaid if this work induces some abler student to take up this neglected but all important question.

I cannot fully express in words what I owe to Mr H. D. Henderson of Clare College, Cambridge. It was entirely owing to his kind encouragement that I undertook the work, and his criticism and suggestions have always been of the greatest value. I have likewise to thank Mr W. S. Thatcher of Fitzwilliam Hall for some valuable suggestions. My thanks are also due to my friend, Mr J. V. Joshi, for his help with regard to the publication of this work.

I

INTRODUCTORY

THE enormous revolution in the methods of transport, brought about during the nineteenth century, has converted the whole world into one market, and thus brought about a state of things in which the old economic units have been superseded. The forces making for a change in the economic conditions now work over whole continents. The latest phase of economic transition in the world's history has been marked by the one remarkable fact that this change, which was originally brought about in one part of the world, has radically affected the structure of economic society in almost all others. India has been no exception to this rule. She began to feel the impact of these forces quite early, and change of some magnitude has been going on in her economic structure during the last century. But the exact period when the forces working towards this change began to operate is very difficult to determine. In the history of no country is it easy to separate two periods by a clearly defined line; this is, perhaps, more true of India than of almost any other country.

One of the first causes operating towards an economic transition was perhaps the establishment of British rule in India, and this also synchronized with the beginning of the competition of British manufactures with Indian industry. But the establishment of British rule itself was a slow and a lengthy process. For though Bengal was acquired at the time of Clive, Upper Burma was annexed only under the viceroyalty of Lord Dufferin—a period of more than a hundred years. Another important factor was the introduction of a new revenue system—or rather systems, for they differed widely over different provinces—by the British, and also the introduction of a new system of judicial administration. All these changes in administration began to be introduced towards the beginning of the nineteenth century, but had not taken full effect even by 1850. These changes were slowly operating on the old Indian economic structure, but their total effect was by no means large. The main and the really important factor, which brought about this economic transition,

was the opening up of India by means of roads, railways and the new steamship routes. It is this which brought the Indian markets and the Indian supplies of raw materials closer to the West, and thus caused a direct impact of Western methods of production and exchange on Indian industry and trade, and that really affected the organization of Indian industrial society.

To get an adequate idea of the effect of this contact, it is necessary to see what was the constitution of the old Indian economic structure. India is, and has always been, pre-eminently an agricultural country. The first fairly reliable census for the whole of India was taken in 1872. This gives under the classification of the adult male population 56.2 per cent as engaged in agriculture, to which must be added the 12.3 per cent classified as general labourers, giving altogether 68.5 per cent of the adult male population deriving their livelihood from land.[1] There is no reason to believe that the percentage of persons employed in agricultural pursuits was ever much less. But even these figures are not enough to emphasize the overwhelming importance of agriculture in India, for most of the rural population, even though engaged in an industrial occupation, had agriculture as a subsidiary occupation. The really important unit, then, was the village in India. This unit differed in size from one part of India to the other. In the plains, the average village was of a considerable size, corresponding to what would be described as a 'township' in England; while in the hilly and the barren tracts it was much smaller, being properly described only as a 'hamlet' or even as 'scattered homesteads'. The peasantry also formed the overwhelming majority of the total Indian population. The economic condition of the peasantry, on account of the differences in political conditions, was not the same in all parts of India at the beginning of the nineteenth century. In the Bombay Deccan the ordinary peasant was almost as well off as his contemporary in England;[2] while in many other parts of India, on account of the depredations of the bands of robbers and general unsettled condition of the country, his condition was the worst possible. But generally speaking, the condition of the peasants may be described as depressed during this period.

[1] This estimate even is too low, as subsequent censuses prove.
[2] G. Keatinge, *Rural Economy in the Bombay Deccan*, chap. i. (1912).

The Permanent Settlement of Bengal had failed to protect the small peasant from the exactions of the zemindars, and in most other parts the initial assessments of the land revenue, levied by the British, were very heavy.[1] They weighed very heavily; for example, on the once prosperous tract of the Bombay Deccan after the British acquired it in 1818.[2] In this tract they were considerably eased in 1836, but it took the peasantry nearly 25 years to recover from the crushing effect of the initial assessments. In the Madras Presidency also, the state of the peasantry was far from prosperous, chiefly on account of the very exorbitant land revenue demands.[3] The Government had to reduce the assessments later on, on account of the deplorable condition of the cultivators, and this reduction with other causes tended to improve the condition of the people.[4]

In the first half of the nineteenth century, the state of internal communication in India was extremely defective. In most parts of the country roads as such did not exist, and where they did exist their condition was very unsatisfactory. The Indus and the Ganges, with their tributaries, were the only river systems that were navigable to any large extent. With the help of these navigable rivers and a few 'made roads', the state of communications in north India was not so utterly bad as in the south. Some idea of the conditions in the south will be gained from the reports of the Public Works Commissioners, appointed by the Madras Government. They report that, at the beginning of the century, there was an almost complete absence of any roads in the Presidency. Some attempts had been made by the East India Company to improve this state of affairs, but they were very meagre as compared with the area of the Presidency. The following description by the Commissioners of the best kind of

The remarks are specially applicable to the Deccan before the march of the Holkar in 1802 and the famine that followed.

[1] R. C. Dutt, *India in the Victorian Age*, part i.

[2] *Report of the Committee on the Riots in Poona and Ahmednagar*, chap. ii. (1875).

[3] S. S. Raghavaiyangar, *Memorandum on the Progress of the Madras Presidency during the Last Forty Years*, sec. iii (1893).

[4] R. Baird Smith describes the state of the peasantry in the N.-W. Provinces in 1837 as 'debilitated by a fiscal system that was oppressive and depressing in its influence and with its agricultural population discontented under the extreme confusion into which, by the action of the revenue and judicial systems, their most treasured rights had been thrown'. (*Report of the Famine of 1860-61 in the North-West Provinces and the Punjab*, p. 21.)

road is very illuminating. They write: '...nearly the whole of the made roads (so called) are only so far made as to be just practicable for carts. They admit of carts moving in dry weather with light loads at a very slow pace and by very short stages. But by far the greater portion of these roads are unbridged and a heavy shower cuts off the communications wherever the stream crosses a line; and they are in many cases so unfit to stand the effects of the wheels while the surface is wet, that in monsoon months they are out of use except for cattle or foot passengers.'[1] It is not surprising, then, to find that the rates for carriage of any agricultural produce were exorbitant, and that consequently there was very little trade in existence. On account of the bad state of the roads, the carts used in many parts of the country were of a primitive type. A curious proof of this effect of the state of roads on the character of the carts used is afforded by the fact that, in the Central Provinces, when the roads were greatly improved in 1860-65, a superior kind of cart at once came into use.[2] The effect of this lack of communications on the volume of the export trade of a country is obviously important; but its effect on the internal trade is even more so. It made the carriage of bulky and cheap goods almost impossible, and generally speaking, restricted trade to the comparatively light and valuable products.[3] But, even in these, the trade was not very large. Dr Birdwood remarks in his report on the Central Museum in 1863: 'Koftgaree and the exquisite soapstone ware of Agra were not known in Bombay until sent to the Museum by the Lieutenant-Governor of the Punjab.[4] This is surprising, seeing that, under Maratha rule, there was a brisk trade between the Deccan and north India. But there is no doubt that, at any rate, a good many of the art products of the north were

[1] *First Report of the Public Works Commissioners, Madras* (1852). There were only 3,110 ¼ miles of even these made roads in the Madras Presidency in 1846.

[2] Evidence of Mr Nicholls before the Indian Famine Commission (1880). Section on agricultural improvement.

[3] In north India the conditions were better, and along the rivers quite a considerable trade even in bulky products was carried on. This was also the case in some parts of central India. Mirzapur, for example, carried on a flourishing trade in cotton with Nagpur and Berar. But most of this was carried on bullocks and not in carts. J. F. Royle, *Culture and Commerce of Cotton in India*, pp. 82-3 (1840).

[4] Quoted by J. F. Watson, *Plan for an Industrial Survey of India*, p. 5, footnote (1872).

unknown in the south. The consequence of this was naturally 'an extremely limited market even for the best and most characteristic native products'.[1] Thus, during the the first half of the nineteenth century, the trade of India was restricted, within very small bounds, as regards the kind of goods, and also as regards the distance traversed.

The internal trade of the country being in such a state, the prices in one part of the country had no relation whatever with prices in any other part. It also follows that, the unit of easy trading being so narrowed down, the fluctuations in prices—especially of food-grains—were sudden and violent. India is a country where the prices of foodgrains, in any particular year, had always been solely dependent on the nature of the monsoon that year. When, as was the case before the construction of roads and railways, there were no large districts to draw upon for supply in case of a local failure of crops, the variations in prices were immense. To take a few examples : bajra at Kaira (Gujarat) was selling in 1812 at 7 ½ seers per rupee, while by 1815 it had fallen to 31 seers ; rice at Salem (Madras) was selling at 75 seers per rupee in 1832, but in 1833 it was as high as 33 ½ seers ; also jowar at Dhulia (Khandesh) fell from 19 seers in 1846 to 85 ½ seers in 1848.[2] Of course these violent fluctuations in different parts of the country had no co-relation whatever with each other. There was a terrible famine in the Deccan and also in Rajputana in 1802-4, but the price of bajra in Gujarat did not rise higher than 27 seers to the rupee. But an even more striking instance is that, in the terrible famine in the North-West Provinces in 1833, the price of wheat at Agra ruled at 13 ½ seers per rupee, but this had no effect on the Khandesh prices, where there was plenty in that year and wheat was selling as low as 61 seers to the rupee. In such conditions, what would now be considered merely as a local scarcity, become a famine, and the mortality on account of these famines was sometimes terrible.[3]

[1] Ibid., p. 5.

[2] Taken from the Memorandum on Prices by Mr Pedder in the *Moral and Material Progress Report* for the year 1882-3.

[3] Major-General Briggs in his evidence before the Parliamentary Select Committee said : 'The 1823 grain in Khandesh had fallen from 6*s* to 8*s* a quarter. At Aurangabad it was 34*s* a quarter and at Poona as high as 64*s* to 70*s* a quarter ; but in consequence of a monsoon and the want of roads the grains from Khandesh could not reach Poona.' Quoted by W. R. Cassel, *Cotton in the Bombay Presidency*, p. 297 (1861).

The agricultural population of India was by far the most important, but the industrial population was also widely distributed in the villages. The predominance of agricultural economy meant that the proportion of the urban population in India at this time was small. The urban population could not have amounted to more than 10 per cent of the total population, and even many of the so-called towns were merely overgrown villages.[1] Most of the towns in India owed their existence to one of the three following reasons: (i) They were places of pilgrimage or sacred places of some sort; or (ii) they were the seat of a court, the capital of a province; or (iii) they were commercial depots, owing their importance to their peculiar position along trade routes. Of these reasons, the first two were by far the most important. Striking examples of the first class of towns were Benares, Allahabed, Puri, Gaya, etc. These, as long as the religion on account of which they attained importance was widely prevalent, enjoyed a period of almost uninterrupted prosperity. But, as in the case of Bodh Gaya, the disappearance of the religion connected with the place meant also the decline in its importance. The large majority of these places of pilgrimage were Hinduistic, and the most important of these had enjoyed an almost continuous prosperity, till the nineteenth century, for a period of many centuries. But this class of towns was naturally restricted in number and, of course, did not admit of an indefinite increase.

The group of towns, which originated in the establishment of a court, was by far the most important and most numerous of the whole; the court might be an imperial court, or it might consist only of the retinue of a petty chieftain controlling a small province, but in either case the nature of the town was the same.[2] The one remarkable characteristic of all these towns was their liability to crumble away rapidly as soon as the prop of the court was withdrawn. One may illustrate this by examples from the small tract of the

[1] This is a mere conjecture in the absence of any statistics. The figure is given on the supposition that the proportion did not differ widely from that in 1872. For though there were remarkable instances of decay since the beginning of the century, e.g. Murshidabad, there was a counter-balancing growth, e.g., in Bombay, Calcutta, Cawnpore, etc.

[2] W. H. Sleeman, *Rambles and Recollections*, edited by V. A. Smith, vol. II, chap. viii (1893).

Deccan. The old capitals like Paithan and Devgiri became unimportant and decayed as soon as the Hindus lost their power. Then followed the Muslim dynasties of Ahmednagar, Bijapur and Golconda. Bijapur, at the height of its prosperity, was reckoned to be second to no city in India, but, with the fall of the Adilshahi dynasty, all its old glory suddenly vanished and only the monuments remained. Indeed all the characteristics of urban life in India were determined by this factor of the influence of the courts. The town depended entirely on the nobles and their retinue, and was often merely a semi-permanent camp.

The last class of towns were the trading or the commercial towns. These towns owed their importance to their peculiar position along trade routes. Mirzapur is a very good example of this class. It depended for its prosperity on its trade with central India and Bengal. It was a very important post on this trade route, owing to the fact that it was the highest navigable point on the Ganges. Therefore a very great proportion of the cotton export of central India passed through this point. This class was certainly not a numerous one ;[1] the internal trade of India during this period was not very large, and therefore its importance was restricted. But the commercial towns were certainly a little more stable than those which depended on being seats of courts.

From an economic point of view, the dominant trait of Indian towns was their non-industrial character. By this is not meant that the Indian towns at this time had no industries, but rather that the industries were not the cause of their importance. There were certain industries always in every town ; these depended on its nature. In Benares, a place of pilgrimage, we find the importance of brass and copperware and bell-metal industries ; the wares turned out were largely sacred vessels (for holding Ganges water, etc.) and utensils used in worship, etc. In all towns depending for their prosperity on courts, we find that the luxury industries predominate ; and, as this was the most important class of towns, the nature of urban

[1] For example, of towns over 20,000 inhabitants in the North-West Provinces in 1891 only six owed their origin to trade, and of these many, like Cawnpore, had attained importance in very recent times. See *Report of the Census of North-West Provinces* (1891).

industry was thereby determined. Thus the wire and tinsel industry, the weaving of fine textiles of all kinds, embroidery, fine gold and silver work, stone, ivory and wood carving and many other artistic handicrafts reached a high stage of excellence in the towns ; but the staple products, necessary for the common people, were all produced in the villages. The towns had only one kind of industry, the art and the luxury industry ; and these depended for their continued prosperity, essentially, on the demand of the nobles and the court. The existence of the court was essential for the industry. The urban industry could not exist independently of the courts. Thus it was that, with the withdrawal of the court, the whole economic structure of urban life collapsed. Two examples of such a collapse during the nineteenth century might be cited. The first is Lucknow, the capital of the Nawabs of Oudh. The province was annexed in 1858, and the court of the Nawab naturally disappeared. Mr Hoey, describes the effects thus : 'It is believed that, for a few years after the Mutiny, the population of Lucknow suffered a sudden decrease. All persons, connected with other parts of the province and of India generally, whom accidents of service had brought to Lucknow, left it. That section of the population, who were attached to the city by the special conditions of trade under native rule, also left,'[1] The second example is Tanjore. The following extract is taken from the *Madras Census Report of* 1891. 'There can be little doubt that it (Tanjore) has declined since the death of the last Rajah in 1855. The existence of a court, *even though a titular one*,[2] exerts a considerable influence upon the population of the town in which it is held, as it attracts numbers of all kinds of professions, and in India a still larger number of Brahmins.'

All the characteristics, above described, of Indian economic conditions during the earlier half of the nineteenth century, were also found in most countries during their corresponding stage of industrial development. But there was one feature of the village community in India, which has no close parallel anywhere else. The institution of the village community, no doubt, is one which was once common almost all over Europe and Asia. The form which it took in India

[1] W. Hoey ; *A Monograph on the Trade and Manufacturers of Northern India*, part II, p. 29 (1880).
[2] Italics mine.

was, however, peculiar—being found all over the country except in the eastern portion of Bengal and in Assam. Inasmuch as nearly 90 per cent of the population lived in villages the constitution of the village was the most important factor in India's social structure. The village community has affected the development of India in various ways. For example, it was perhaps this peculiarly self-sufficient structure of the village that preserved the civilization of India through the many invasions and the many changes of rulers and Governments.[1] But we are concerned here with pointing out its salient points in connexion with the economic structure.

The Indian village on account of the difficulty of communicating with the outside world was, of course, an almost entirely self-sufficient unit. All the main needs of the community were satisfied locally. It was only for such things as salt that recourse was had to an outside market, and in the case of small villages such luxuries as ornaments could not be procured in the village itself. The following description of the typical village will bring this out: '. . . Such industries as are necessary to supply the simple needs of the village are prosecuted in the village itself. The Punjab village is eminently self-sustaining, it grows its own food, it makes its own implements, moulds its own domestic vessels, its priests live within its walls, it does without a doctor, and looks to the outside world for little more than its salt, its spices, the fine cloth for its holiday clothes, and the coin in which it pays its revenue.'[2] What is said here of the Punjab village applies with equal force to the villages all over India. It must be noticed that, at the beginning of the nineteenth century, when cash payments of revenue were almost unknown, the village was even more isolated than it is shown to be in the above picture.

The mere fact of the isolation of the village is not striking in itself, nor was the fact that all the artisans lived in the village peculiar. But the peculiar feature of the Indian village community was that the majority of the artisans were servants of the village. These different artisans had usually their own plots of land, which they

[1] 'These communities contain in miniature all the materials of a state within themselves and are almost sufficient to protect their members if all other government were withdrawn.' Elphinstone, *Report on the Deccan, etc.*, quoted by R. C. Dutt, op. cit.

[2] D. Ibbetson, *Report of the Census of the Punjab*, p. 18 (1881).

held from the village rent free, or at a reduced rental ; and one of the chief sources of income of these artisans consisted in the fixed share of each year's produce, paid to them by each cultivator. For this they were required to render certain services to the body of the cultivators.[1] Thus a carpenter was required to repair all agricultural implements and make most of them for each cultivator without any further payment. It was only for such things as the sugar-press or the cart, that he was paid anything extra. The dues and the duties of this village servant class of artisans differed from one part of the country to another.[2] But, though these differed, the remarkable feature of the artisans being village servants was to be found everywhere. Not all the village servants were artisans, for this group also included in many parts the headman, the priest, the accountant, etc. Neither were all artisans village servants. For example, the weaver was nowhere a village servant. But artisans whose services would be regularly required by all members of the village community, generally, formed the artisan group of the village servants.

This system gave a peculiarly compact form to the Indian village community and for that very reason it was well able to resist outside attacks. The office of the village artisan being hereditary, it stereotyped the whole life of the village. It was no doubt a very good device for insuring that the services required for the village would be regularly provided for, especially during troublous times, but, at the same time, it insured against progress in the methods of the artisans. To begin with, the artisan, who did all the miscellaneous duties connected with his occupation in the village, did not specialize, and the division of labour was extremely limited. The proficiency,

[1] This was the arrangement in cases where the village was a group of independent cultivators. The slight modification which was found in the case of landlord villages will be noticed later.

[2] The differences were not only in the dues and services but also in the artisans who were servants of the village, for an artisan who would be a village servant in one part of the country would be an independent artisan in another part. For the different parts, see W. Crooke, *North-West Provinces* ; Sleeman op. cit., vol. I, pp. 73-4 ; Grant-Duff, *History of the Mahrattas*, edited by S. M. Edwardes, vol. I.

In the south the arrangement was a little peculiar, for in the group of 'Panchalas', i.e. the five smiths, the artisans followed any profession within the group they pleased (see *Report of the Mysore Census*, 1891); such interchangeability was not to be found in the north.

therefore, of the artisan in his craft could not be expected to be great.[1] It also effectively protected the artisan from the pressure of external competition. For a cultivator was not likely to buy his pots from an outside potter—even though his wares were superior—if he had been paying the village potter to supply them to him. This same absence of external competition resulted in an entire absence of localization of industry in India. Indeed, except in the artistic wares —which were produced in the towns—there was no localization of industry in India.[2] The lack of communications alone does not account for this, for, in Burma, where the difficulties of transport were also great, there was localization to a small extent in the areas of small groups of adjacent villages.[3] But in India even this was almost entirely non-existent. Thus, with very little division of labour, and almost no specialization in products at different places, the state of the Indian rural industry was very backward.

The village community, with its peculiar constitution, was the most interesting and the most important feature of Indian economic life. The towns were not very influential. They were almost as something apart from the general life of the country. Thus India was characterized by an aloofness from the outside world; it consisted of an immense number of entirely self-contained and self-supplying units with little contact with each other and practically no knowledge of the outside world.

[1] Sometimes his methods were very bad and this fact helped in some parts, when the communications grew, to break down the system. Of Chhatisgarh carpenters we read: 'The implements used are so rough that the cultivators generally prepare their own or if pushed make for the nearest town.' *Report of the C. P. Census* (1891).

[2] A slight exception might be made in the case of weaving. In this in some parts of the country there were centres which were famous in surrounding tracts for their specialized products.

[3] The contrast here with Russia, with whose village communities the Indian village is often compared, is striking. Mavor mentions whole villages of blacksmiths, wire drawers, etc.; this was impossible in India. He also says, 'The products of these village artisans were intended for sale. Specialization of village production rendered this course necessary and the wide market with facilities of trading rendered it possible' (p. 530). J. Mavor, *Economic History of Russia*, vol. I, book 3, chap. iii. Such peasant industries did not and could not exist in India.

For Burma see *Report of the Census of Burma* (1911), also Bell, Monograph, *Iron and Steel in Burma* (1907). 'Another development (of the blacksmith's industry) is to be seen in Mindan village where every household depends more or less on its smithy.'

II

THE AGRICULTURIST, 1860-80

THOUGH the contact and commerce of India with the West had been going on for many centuries, this had not affected India's economic structure at all till the nineteenth century. It was only after the series of inventions that led to the application of mechanical power to manufacture on a large scale that the English industrialist gained a considerable advantage over the Indian artisan. It was at about the same time that England acquired a large portion of India, and that new administrative and judicial systems were introduced into the land. These latter had in many parts the effect of depressing the condition of the people, or of undermining old institutions like the village community as a self-contained administrative unit. But they left the industries and the industrial organization of India much where they were before. The competition of the English industrialist, however, was a more important factor. But even though the foreign manufacturer was able to beat the Indian artisan in this competition, the entire lack of communications in the interior of India sorely handicapped him, and during the first half of the nineteenth century, the only industries that were seriously affected by foreign competition were the Dacca muslin industry, the Bengal silk manufactures industry, and the Bombay and Bengal shipping industry. Even so, there is reason to doubt how far the decline in the first two can be directly attributed to external competition. In the direction of the establishment of new industries and improvement of agriculture, this contact had not as yet borne much fruit.[1] The chief results of this nature were the spread of the cultivation of jute in Bengal for exportation in about 1830, the beginnings of the export of cotton and the introduction of some exotic varieties. The mass

[1] Sericulture was also an industry specially developed by the East India Company, but its development was of a forced nature. During the Napoleonic wars, when the regular supply of raw silk from Italy to England was cut off, this industry was fostered by the Company in Bengal. The artificial nature of the growth is shown by the fact that, as soon as the Company withdrew their active support (in 1836), the industry began at once to decay. See J. Geoghagen, *Report on Silk in India* (1874).

of the population, generally speaking, were as yet unaffected. They felt the foreign rule, they felt the heavy assessments, they felt the decay of old institutions, but they did not feel the competition of foreign goods or other external forces effectively enough to induce them to change their industrial methods or organization.

It was not till 1850 that the volume of India's foreign trade began to increase rapidly as the result of the improvement of ocean steamers and the extension of roads in the interior. The fifties saw the beginnings of railway enterprise in India ; the latter part of the decade witnessed large accessions to territory directly under British rule, and also the disappearance of the East India Company and the transfer of Indian Government to the Crown. This was an eventful decade indeed, and the changes that were heralded by so many important events were to be of enormous importance in the economic history of India.

The first event, in the western world, to act on India suddenly and to have a very important economic effect was the American Civil War. It was now shown for the first time how very near to the markets of the West India had been brought. This also was the first important event to force upon the notice of the cultivator the important fact of the existence of these markets.

The history of cotton cultivation in India is a long one ; but, though the cultivation of cotton in India was practised from very early times, the export of raw cotton from India is a comparatively new thing. Before the nineteenth century India was chiefly famous 'for exporting her elegant fabrics to the most civilized nations in the world'.[1] The inventions of machinery for spinning and weaving and the consequent competition of cheap goods had considerably diminished the exports of these 'elegant fabrics', and also at the same time revealed the possibilities of India as a supplier of raw cotton. Though, as late as 1780, America as a producer of raw cotton was quite insignificant, her progress since that date had been remarkable, especially after the discovery of Whiteney's new saw-gin ; and by 1830 she became the principal supplier of cotton to the growing English industry. At this date India's exports of raw cotton were very small. Dr Royle writes : 'It forms but a small part of the imports into this country

[1] J. F. Royle, *Culture and Commerce of Cotton in India*, p. 20 (1851).

(England), but a more conspicuous factor in those of China; the two quantities together, however, make but an insignificant portion of what is produced in the country. For it may be seen cultivated in patches in almost every part of its wide extent, in some provinces forming nearly one-fourth part of the 'khureep', or wet season crop, and necessarily an important item in the agriculturist's return.'[1] Until about 1860, these exports, though on the whole slightly increasing, remained curiously fluctuating. But already the British cotton manufacturers had their attention drawn to India as a possible source of supply of the raw material for their industry.[2] A failure of the cotton crop in America in 1846 showed to them the instability of this source, and they were busy finding an alternative in case of emergency. Royle, after writing of the old manufactures of India, goes on to say: 'In the present day, however, we often hear of the country talked of only in the light of a cotton farm, whose business it should be to supply the raw material to England whenever it is required, and to take back her manufactured goods in any quantities that the manufacturers choose to send.[3] But many causes, notably the short staple of the Indian cotton, the enormous admixture of dirt in the cotton, the difficulty of communications and also the want of a stable export market, had prevented the exports of raw cotton from India from rising hitherto to great height.[4] Then came the American Civil War; the ports of the south were closed and there was a cotton famine in Lancashire. Naturally the English manufacturers turned to India.[5] The effects of this creation of a sudden demand for Indian cotton were truly enormous. The Government undoubtedly exerted itself vigorously in the matter by the appointment of Cotton Commissioners for Bombay and the Central Provinces, by pushing forward construction of roads and railways and other measures; but the cultivators also

[1] Ibid., p. 18.

[2] The growing interest taken in India's cotton supply is shown by the number of books that appeared about this time on the subject. Chapman, the founder of the Great Indian Peninsular Railway, lays great emphasis on this point of making accessible the Indian cotton supply in his advocacy for the rapid extension of railways in India. See J. Chapman, *Cotton and Commerce of India* (1851).

[3] Royle, op. cit. p. 20.

[4] Ibid., see also W. R. Cassel, op. cit.

[5] *Correspondence on the Subject of Cotton Cultivation in India* (1863), (Parliamentary Paper).

were very quick to seize the opportunity of making extra profit. The price of cotton had risen greatly and the growing of cotton became suddenly very paying. This enormous rise in the price of Indian cotton is shown clearly by the following figures.

Price of Indian Cotton in Annas per lb.

1859	1860	1861	1862	1863	1864	1865	1866
2-7	3-7	4-2	6-5	10-5	11-5	7-1	6-2

It will be seen that the price of cotton had risen more than threefold during the course of four years. The trade in raw cotton also naturally rose to extraordinary heights on account of this rise in price, and the quantity available for export to the United Kingdom was more than doubled within these four years.

Imports of Raw Cotton into the United Kingdom from India (in Bales)[1]

1859	1860	1861	1862	1863	1864	1865
509,695	562,738	986,280	1,071,768	1,229,984	1,399,514	1,266,513

The rise in price combined with the increased quantity made the value of these exports formidable; and for a few years after 1864 their value formed more than half of the value of the total exports from India.

The enormous effects of the American Civil War—especially in the cotton-growing tracts—might be profitably illustrated by some extracts from the valuable reports of Mr Rivett-Carnac, the Cotton Commissioner of the Central Provinces and Berar. After describing the manifold difficulties in the way of the cultivator before 1860, he goes on to say: 'Suddenly, as if by magic, these obstacles were effectually and simultaneously removed, and the cotton trade as it was carried on in 1864 in central India is hardly to be recognized by the

[1] Statistics taken from the article on Cotton (*Gossypium*) in G. Watt, *Dictionary of Economic Products of India.*

side of the business as it is done in our markets today. Whilst the railway, slowly but surely, was working into the heart of the country, the position of the cultivator was undergoing a great and decided change. The operations of the Land Revenue Settlement relieved him of all anxiety regarding his tenure. . .and finally the American Civil War, by raising the price of cotton and pouring into the ryot's hand what appeared to him untold wealth, enabled all those who were not utterly reckless and extravagant to free themselves from the meshes of the money-lender's hands.'[1] The figures[2] for the extension of cotton cultivation in the Central Provinces given by the Cotton Commissioner are :—

Years	Acres	Years	Acres	
1861-62	375,623	1865-66	587,398	
1862-63	427,111	1866-67	598,801	
1863-64	488,436	1867-68	735,633	Includes about 100,000 zemindary
1864-65	691,198	1868-69	750,875	

These benefits of the American War were, of course, equally extended to all the cotton-growing tracts.[3] In Madras 'the ryots in the single district of Bellary alone made 1 ½ millions sterling by the sale of cotton in the three years of the American war' ;[4] while in the Bombay Presidency the effects are described thus : 'In 1862 began the period of extraordinary prosperity, caused by the rise in the price of cotton, which followed the American blockade. In those years the ryots would under ordinary circumstances have suffered severely from the constant deficiency in rainfall during five successive seasons. But the abnormal value of the produce made the scanty crop of a year of drought equal to the full crop of a good season.'[5]

[1] *Annual Report of the Cotton Commissioner for C. P. and Berar for the Year* 1867-68, p. 132.
[2] Ibid., 1868-9, p. 3.
[3] These benefits might be said to have been widely extended all over India, for, except Bengal, almost every province of India had large areas under cotton at this time.
[4] Raghavaiyangar, op. cit., p. 39.
[5] *Report of the Committee on Riots in the Deccan*, etc., p. 21.

But the real importance, in the economic sphere, to India lay not so much in raising the price of cotton and thus bringing about a temporary period of prosperity, but rather in bringing home to the cultivator the fact that causes other than local needs were beginning to govern the nature and extent of the crops he sowed. Briefly, it was the event that most clearly and dramatically revealed a break in the economic isolation of India.

The rapidity with which the demand for cotton from England was met by India was only made possible by the many measures of improvement, which had been undertaken in India during the past decade. Chief among these was the extension of roads and railways. The appalling state of communications before 1850 has already been described. Till about 1845 very little had been done to forward road construction in India. In the Madras Presidency after this date a certain amount of expenditure towards the construction of roads was sanctioned. Though this money was spent, the construction of roads was but little advanced till after the Report of the Commissioners (1852). A road to Agra from Bombay was commenced in 1840; while in the Presidency itself, except for the road over the Bhor Ghat to Poona, little had been accomplished. The trunk road in the north was only from Calcutta to Benares, and even this was in a bad state. About 1850 the extension of this trunk road to Delhi was undertaken and the work was completed by 1853. But the real progress in road-building was begun under the vigorous Governor-Generalship of Lord Dalhousie by the newly formed Public Works Department. The trunk road to Delhi was completed and its further extension to Peshawar was vigorously begun.[1] Road-building thus really began in the fifties. After 1857 the necessity of roads for military purposes and also as feeders for the great railway trunk lines was realized and the next decade saw a rapid extension of roads in India.

But this work was now overshadowed by the even more important work of railway extension. The question of railway building in India was broached as early as 1845. But when private companies were formed capital was not forthcoming. Then ensued the long series of negotiations between the companies and the East India Company on

[1] J. Briggs, *India and Europe Compared*, chap. i, part iii (1857).

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the question of a state guarantee.[1] These did not bear much fruit until the time of Lord Dalhousie's Governor-Generalship. Lord Dalhousie interested himself in the extension of railways in India and wrote two very able minutes on the subject, in one of which he sketched the routes which trunk lines in India should take.[2] An experimental line had already been undertaken near Calcutta in 1849 ; and in 1854 the first line of railway in India—from Bombay to Thana—was opened for traffic. From this date the work was pushed on vigorously until 1857, when it was temporarily checked. The ten years following saw a remarkable growth of railways in India ; the work was carried on continuously and the length of miles open for traffic had been increased from 432 miles in 1859 to 5,015 miles in 1869.

It is not necessary here to discuss the system of guarantee and control by which railway construction was inaugurated in India. The first obvious effect of railways was, of course, that of making communication quicker, and for long journeys much cheaper. This was very important, as it was the extension of railways and roads that made possible the carriage of cotton in large quantities from the fields to the sea-ports. But during the decade 1860-70 it had another effect which is also very important. Before this time a class of general casual labourer as such was almost unknown in India ; such a class was non-existent because there was no demand for it. In old times the smaller works of utility e.g. small canals etc. were mostly built by the co-operative labour of the people in the tract and the bigger works and also works such as the building of temples, monuments, etc. were generally constructed by forced labour of the cultivators of the surrounding country. During the regime of the East India Company the number of big public works had been comparatively small ; but the number of such works undertaken after the formation of the Public Works Department by Lord Dalhousie and especially after 1859 was very remarkable.[3] This naturally meant the employment of very large numbers of ordinary unskilled labourers throughout the country. The main classes from which these labourers were recruited

[1] H. Bell, *Railway Policy in India*, chap. i.
[2] W. W. Hunter, *The Marquess of Dalhousie*, chap. vii (1890).
[3] These were of a varied class, such as railways, roads, irrigation works, Government buildings, military barracks, etc.

were the agricultural labourers the poorer classes of cultivators, who were glad to have an opportunity of supplementing their earnings in the off-season of agriculture, and also a certain proportion of village artisans, especially weavers, who were now beginning to feel the effects of foreign competition. A natural result of this sudden demand for unskilled labour was a general increase in the wage rate. This rise in the wages was very large. The Committee on the riots in the Deccan say in their *Report* : 'The competition for labour made it possible for the ryot to earn the assessment of an ordinary holding by a fortnight's work,[1] and further, in more detail, the ryots drew large sums from the competition for labour by migrating for a time to Poona or Bombay, where the labour available was employed at extravagant rates. The monthly wages of a common cooly in Bombay rose from Rs 7-12-0 in the period 1860-62 to Rs 13-8-0 in 1863. During the construction of the railway about 25 lakhs of rupees were spent in the area of the disturbed villages in payments to such as would remain in the district.[2] Outside the district itself but only 60 miles distant the works on the Bhor Ghat gave employment to thousands : one contractor on a line of 14 miles employed nearly 40,000 labourers. Following on this after a short interval came increased expenditure on public works, rising in 1868-9 to 31 lakhs on public works and irrigation in Poona district alone.'[3] The above clearly shows the effect on the wages in every district in which railway or other public works were begun ; it also shows the phenomenal growth during the decade of such expenditure by the State. In the Madras Presidency 'there was a considerable improvement in the condition of non-agricultural labourers also, as, owing to the construction of several railways and other public works, the demand for labour was great and continuous, and the rise in wages kept pace with the rise in the price of food-grains.'[4]

This indicates a tendency of prices to rise at about this time. The prices of food-grains and other products in India fluctuated enormously in all parts of the country during the first fifty years of the

[1] Op. cit., p. 21.
[2] The area in which the subsequent riots took place.
[3] Ibid., pp. 47-8.
[4] Raghavaiyangar, op. cit., p. 39.

nineteenth century; but through all these fluctuations there was one common tendency, and that was of the prices to fall. The common, and generally accepted, explanation of this phenomenon was the introduction of money economy in the country, especially the introduction of cash payments of Government assessments. India never produced any large amount of the precious metals, and so the quantity of bullion in currency at the beginning of the nineteenth century was very small. But this small amount was found quite enough for the purpose of the trade, inasmuch as most transactions were conducted by barter, and the volume of trade transacted with metallic currency was extremely small. With the introduction of the system of paying Government assessments in cash, the demand for money, especially just after harvest time, increased greatly. Thus the 'duty' thrown on the amount of currency in the country largely increased, and the prices of all commodities began to fall. This general fall in prices continued till about the middle of the century, when a reverse tendency began to operate. It was about this time that the discovery of gold mines in Australia and California and of silver in Mexico suddenly increased the world's supply of precious metals; and it was about this time that the foreign trade of India was increasing by leaps and bounds. A large quantity of these precious metals, therefore, necessarily found their way to India and set up a general movement towards an increase in prices.[1] The following provincial averages[2] indicate the extent of this tendency.

Prices of Food-Grains (seers per rupee)

Year	Rice Bengal	Wheat N.W.P.	Wheat Punjab	Jowar Madras	Bajra Bombay
1861 ...	27·07	18·45	19·23	25·54	21·55
1870 ...	22·74	15·5	15·13	22·68	13·2

Another tendency, equally well marked, was that of prices in different provinces to correspond and the tendency of price movements in one

[1] Pedder, 'Memorandum on Prices', op. cit.
[2] J. E. O'Connor, *Review of the Prices and Wages in India* (1886).

part to affect the movements in another. This was especially noticeable in times of famines. Thus Mr Henvey says in commenting on the ease with which the famine area in 1868-9 was supplied with food-grains from other parts of the country: 'It must not be forgotten that while railroads, and other means of easy communication, lessen the danger of local famines, they also tend to widen the area in which high prices prevail.'[1] This only shows the action of the tendency of equalization of prices in times of famines.

Fortunately this decade was comparatively free from famines. The nature of a famine in India is very important, as it was then, and in a modified form it is even now, a prominent feature of India's economic life. It has been insistently remarked by all writers on Indian famines that a famine does not involve so much a lack of food, as a lack of employment. But this is a statement which does not hold good of famines in India before the means of transport were improved. Famine then meant a lack of food as well as a lack of employment. For, as late as the Rajputana famine of 1868, people had to go without food even though they had the means to buy it, through an absolute lack of supply. The same fact is indicated by the large migrations of people from the famine districts to districts well provided with food, which invariably occurred in Indian famines of the early nineteenth century. Because the food was not to be had in their district the people had to migrate to districts where there was an abundant supply. Even in the famine of 1860-61 in the North-West Provinces, when the means of communication were much better than they had been before, extensive migrations took place; and although in the tract, as a whole, the supply was enough to go round, in the worst districts this was far from being the case. Here the practical question was then 'not so much how to get food, as how to get the starving people to the food or the food to them in the cheapest and the most expeditious way possible.'[2] The nature of the country in this case and the comparatively good means of transport enabled the food to be brought to the people. But, 'in cases like the Rajputana famine, in which distress is widespread and where no railroad or

[1] F. Henvey, *Narrative of the Drought and Famine in N.-W. Provinces, 1868, 1869 and 1870.*
[2] R. Baird Smith, op. cit., sec. i, p. 13.

water carriage exists to bring the produce of distant countries to each person's door, the lives saved by human means are only few compared with those who perish.'[1] What the condition of Rajputana was in 1868, was the condition of the whole of India before 1850.

The decade 1860-70, which saw, so many changes in the economic sphere in India, saw also a change in the nature of Indian famines. Henceforth, the Indian famine meant no longer an appalling lack of food, but only scarcity prices and a universal lack of employment. The famines that actually took place in the decade, though they involved a terrible increase in mortality—especially in 1868-69—were not very widespread nor very severe. The mortality also would have been much less if Government officers had had at their command the very well organized system of famine relief, which was evolved later on during the century.

The rise in the price of cotton, consequent on the American Civil War, was a source of profit to all the cultivators of all the cotton-growing tracts, and so also in a smaller degree to cultivators of all parts. At the same time the expenditure on public works was raising the wages of labour; but the condition of the farm servant, on account of his being paid in kind, was not much affected either by the rise in the price of food-grains or by the rise of money wages.

The reaction from this period of prosperity had begun as early as 1865 in the Madras Presidency. There was a slight famine chiefly felt in the Ganjam district. It is to be noted that, as the cotton boom had not passed as yet, the Ceded Districts, which grew cotton did not feel the drought, though, under ordinary circumstances, they would certainly have suffered from it severely. After the Madras famine, the Rajputana famine (1868-9) followed. In this famine the mortality was very great, proportionately greater than in almost any other modern famine. There was a complete failure of the kharif crop of 1868, and, to make things worse, next year followed with a plague of locusts. Fortunately the famine was not spread over a very wide tract. It was confined to Rajputana and the adjoining districts of the North-West Provinces. The difficulties of the situation were very great as there was an almost complete lack of communications in the interior of Rajputana. This was, perhaps, the last famine in India

[1] Henvey, op. cit., p. 97.

in which the scarcity of food, as such, was severely felt. All the characteristics of the old Indian famine were brought out in this case. There were vast masses of people moving at random out of Rajputana in search of food, work, and fodder for their cattle. The nearest cities in the North-West Provinces such as Agra and Delhi were blocked with famine-stricken people who were driven out of Rajputana. In this aimless wandering in search of food, a great number of people lost their lives, but the mortality among cattle was even greater. It is estimated that the majority of the cattle of Rajputana perished.[1]

Then famines quickly followed each other. First was the famine in Bengal and Bihar (1873-4). It can be said that the modern methods of famine relief were first put into practice on a large scale in this famine. Famine works were opened all over the districts, and relief was freely given. The officers had been so much impressed by the terrible loss of men and cattle in Rajputana that they were resolved not to let any man suffer for want of relief. The result was a relief administered extravagantly. On an average about 26 per cent of the total population of the famine districts were relieved, and, in some, the percentage rose as high as 50 or 70. Government prohibited the export of grain from the tract, and once when it was feared that private trade was not active enough, it imported grain largely on its own account. The expenditure on famine relief was excessive, but it must be said to the credit of Government that there was no death from starvation.[2]

It was in the latter part of this decade that the series of famines covering almost the whole of India occurred. The famine was severest in south India, covering the major portion of the Presidencies of Bombay and Madras, the Nizam's Dominions and Mysore and lasting from 1876 to 1878. At the same time a slight famine was felt in the North-West Provinces and Oudh. As usual in Indian famines, the rainfall in these tracts had been short and irregular for several years before the actual drought occurred. Thus the stocks of grain in reserve were very low. In the North-West Provinces,

[1] *Report of the Indian Famine Commission* (1880) part ii, 'History of Past Famines'.

[2] Ibid.

where the earlier season had been favourable, the stocks had been greatly depleted by exports of wheat to Europe, as the wheat trade, on account of the opening of railways, was now growing rapidly. When the famine came, it found the country entirely unprepared for it. The miseries of the people were greatly aggravated by the fact that a very usual feature of the famines in India is the complete lack of fodder. What this meant to the people can be realized only when we consider what a great proportion of the capital of the peasant is usually invested in his cattle. Relief works on a large scale were opened all over the country, but still a large stream of people steadily emigrated from all parts of south India to the Western Ghats. This emigration differed from that which took place in the Rajputana famine, inasmuch as it was an emigration in search of fodder in the forests of the Western Ghats and not of food for the people themselves. Of food there was no actual lack. The railways and the activity of the traders in grain had distributed the available food supply all over the country very quickly. It was only in some parts of the Bombay Carnatic, to which the railway system had not yet been extended, that any actual dearth of food was felt. This famine was so widespread and terrible that the Famine Commission of 1880 described it as the worst experienced since the beginning of British rule in India.[1]

The course of famines in the decade 1870-80 has been sketched above briefly, because the consequences of a famine were economically very important to India. It was especially so in this decade. Since about 1850 India had enjoyed a fairly long period of immunity from famines, and as pointed out above the conditions all tended towards a prosperous state of trade and agriculture.

The first and the most apparent effect of the famine on the country was in the rate of increase of the population. During the decade 1872-81 the population of India, as a whole, increased by 6·85 per cent.[2] But the increase was extremely irregular. As there had been no regular census before 1872 it is impossible to decide the exact rate

[1] For a detailed account of the measures of relief taken and the different controversies, especially about the reduced or 'Temple Wage', see W. Digby. *Famine Campaign in Southern India.*

[2] W. C. Plowden, *Report on the Census of India* (1881).

of increase in the different provinces, but the figures for the increases in the famine-stricken provinces bear eloquent testimony to the effect of the famines.

Bombay (British): increase of 2.05 per cent in 9 years.

Madras Presidency : decrease of 1.35 per cent in 9 years.

Mysore : decrease of 17.19 per cent in 10 years.

Cochin State : decrease of 0.14 per cent in 6 years.

As there was no census of the Nizam's Dominions in 1872, figures for this tract are not available. The Bombay Presidency shows an actual increase only because the whole of the northern portion of this Presidency was unaffected by the famine. But even these figures do not convey the entire result. For example in the Madras Presidency everything points to the fact that the years between 1856-76 were very prosperous and that there was considerable increase in the population during this period. According to Dr Cornish during these twenty years the population of the Presidency rose from twenty-three to thirty-one and a half millions.[1] In the 1871 figures there were some omissions and therefore the real check to population was even greater than shown by the above figures. Another fact, which indicated this, was the diminution in the number of inhabited villages and the percentage of the houses occupied. In Madras Presidency the percentage of unoccupied houses rose from 6.11 per cent in 1872 to 11.71 per cent in 1881. It is not so much due to the deaths on account of starvation that the population figures suffered ; deaths from actual starvation were comparatively few in the 1876-8 famine. But the check to population came mainly from two results of the widespread under-nourishment of the people in famine times. The lack of sufficient food checked the birthrate during times of scarcity, and the same deficiency, by emaciating the people, made them very easy victims of the epidemics of fever, cholera, etc., which are the invariable companions of famines in India.

Yet another effect of the famines, which was much more disastrous to the prosperity of India, was the setback to agricultural progress that a severe famine always meant. A curious proof of this fact is that the methods of cultivation are generally the worst in those parts of India which are most liable to periodical failures of rainfall.

[1] L. MacIver, *Report of the Census of the Madras Presidency* (1881).

The expectation that a famine is bound to occur in a certain number of years acted as a hindrance to the cultivator's desire to improve his land or his cattle. This question of live-stock was very important. In most parts of India a very large proportion of the cultivator's capital was in the form of his draught cattle. But it was a form of investment that was most liable to suffer in times of famine. It has been mentioned that during the years 1876-8 there was a general movement of people to the Western Ghats in search of fodder. Government, by opening the reserved forests to public grazing and by establishing fodder depots on the main routes towards the Ghats, did a great deal towards saving the live-stock of the country. But in spite of all the efforts of the people and Government a very large proportion of the cattle died during the famine.

Famines undoubtedly played a very important part during this decade in India. They certainly caused a great deal of distress, but there were many other causes also at this time which contributed towards depressing still further the condition of agriculturists. The various factors that tended to create the elusive prosperity of the last decade have been detailed above; but that the prosperity was mainly founded, at least in the Bombay and Madras Presidencies, on the rise in the price of cotton is shown by the sudden reaction which followed the lowering of the price of cotton on the close of the Civil War. As soon as America resumed its export of cotton the demand for Indian cotton fell sharply and at the same time there was a general dislocation of trade in Bombay and the failure of many prominent merchants followed. The peasant also had generally failed to profit by the spell of prosperity that he had enjoyed; he had in most cases spent the money he gained recklessly.[1] In some cases indeed, the cultivators on account of their increased credits had actually increased their liabilities. Thus with the slump in the cotton market the position of the cultivator became suddenly very bad.

At the same time the assessments began to fall heavily on the cultivator, especially in the south. It so happened that the period of the revision of assessments here coincided with the temporary period of prosperity enjoyed by the cultivator during the sixties. The

[1] Evidence of Mr Nowrojee Furdunjee before the East Indian Finance Committee, 1872.

revenue officers, taking the profits of cultivation then obtaining as the standard, raised the assessments generally a great deal. But when the period of prosperity had passed away the peasant naturally found it very difficult to pay his assessment and was further forced into borrowing largely.[1]

Then again there was a general depression of trade all over the country and some of the industries especially felt the effects of the Franco-German War. The prices of foodgrains which had been constantly rising through the previous decade became either stationary or—excepting in famine times—began slightly to fall. The State was still spending large sums of money on public works but this was not the only purpose for which it was now spending money. With Lord Northbrook's resignation in 1875 the Government of India entered on a policy which entailed more and more expenditure in military expeditions and establishments. Consequently the burden of taxation was pressing more and more heavily on the mass of the people.

All the above causes, combined with a succession of severe famines, produced a measure of distress which had not been felt by the people for many years. A very significant occurrence produced by this distress was the riot of the peasants in certain Deccan districts. In the districts of Poona and Ahmednagar of the Bombay Presidency the peasants spontaneously rose in many places and robbed and wrecked the houses of the money-lenders. In some cases even greater violence was committed. In most places the demand of the peasants was for the return of the debt-bonds. Many peculiar causes had combined to produce this disturbance. There had been a vast amount of expenditure in these districts during 1860-70 on account of public works; but these works had now been completed. This was also one of the tracts in which the cultivator had found that, on account of the cotton boom, his credit had expanded and he had utilized this fact in extending his debt obligations. Also in these parts the money-lending business was in the hands of Marwaris, a particularly unscrupulous lot of money-lenders, foreign to the province. The disturbance was put down with ease but the Committee which inquired into the causes of it found that it was due to some very deep-seated

[1] *Report of the Committee on the Riots in the Deccan* (1876).

evils. It is a well-known fact that agriculturists all over the world become involved in debt with fatal ease. It was particularly the case in India where farming on a large scale is unknown to any great extent. But before the advent of the British this process was checked a good deal by the many restrictions on the transfers of land; and also in some parts, by the State refusing to give any help to money-lenders to recover their debts.[1]

The British had given rights of free transfer and absolute ownership—especially in the 'ryotwari' tracts—to the cultivators which they had never possessed before. Again the judicial system which had been adopted gave the money-lender a great power over his debtor, and finally the Limitation Act, making the renewal of the debt-bond in short periods compulsory, made the position of the debtor much worse.[2] Thus, though there was nothing in the nature of a peculiar hardship in the mere fact of an agriculturist being indebted, these other causes acting in concert had reduced the debtor, in many cases, to the position of a virtual serf. The process of a general trade expansion, and the fact that the crops of the cultivator had begun, all over the country, to acquire a distinct market value, had expanded the credit of the cultivator. The ease with which the money could be recovered through the courts had made the money-lender more ready to lend. The process had gone on during the period of prosperity and the cultivator was quite oblivious of where he was going, but as soon as the reaction came and the money-lender began to tighten his grip on the cultivator's land, his real position was brought home suddenly to the cultivator.

The above applies with certain reservations, substantially to all parts of India.[3] The causes given above and their effects are very important; for in this decade was thus started the movement of a gradual transference of land from the hands of the original cultivators to—in most cases—the money-lenders. The process can be termed beneficial,

[1] Ibid.
[2] Ibid., chap. v.
[3] See ibid., Appendix A: 'Paper Relating to the Indebtedness of the Agricultural Classes in Bombay and other parts of India', (1875). For a very close parallel in the Punjab, see S. S. Thorburn, *Musalmans and the Money Lenders* (1886) and *Note on Land Transfer and Agricultural Indebtedness in India* (1895): also 'Evidence on Agricultural Indebtedness', *Report of the Indian Famine Commission* (1880).

if at all, only in cases in which the land thus transferred was acquired by the land-owning classes or others who were careful agriculturists; but in most parts of the country this was not the case. In the Deccan, for example, the Marwari never wanted to take possession of the land; in many cases he did not have the land transferred to himself legally, but it was still allowed to remain in the old cultivator's name; the Marwari merely appropriated to himself the entire profits of cultivation by virtue of the large number of debt-bonds that he held. The cultivator had to toil hard each year and at the end of it his mere subsistence was dependent on the clemency and reasonableness of the Marwari. Thus was a great portion of the Deccan peasant class reduced to virtual serfdom. It was to combat this tendency that Government began the long series of legislative enactments restricting the right of land-transfer of which the first is the Deccan Agriculturists' Relief Act (1879).

It might be interesting to note here the chief provisions of this Act. Firstly, arrest or imprisonment for debt was abolished. This was wholly a beneficial measure, for this was the chief weapon in law, by the threat of applying which the money-lender had got such a hold over the peasant. After certain conditions had been satisfied, the debtor might be declared insolvent and free from future liability. It is a striking proof of the honesty of the peasant that this provision was very rarely resorted to. A system of village munsiffs and boards of conciliators was created to deal with cases up to a small amount and to arrive, if possible, at an amicable and reasonable settlement of the account. The courts were also bound to inquire into the previous history of the debt in the case of an agriculturist.

It might be said that during the decade 1870-80 the agriculturist all over India lost a good deal of the progress that had been made previously. In some tracts indeed his position had been very bad for a long period,[1] but a general comparative statement is impossible. The area of cultivation and the nature of the crops grown were naturally affected by the famine conditions, but whether there was a general increase in the area under cultivation or any important change in the crops is impossible to say on account of the entire lack of agricultural

[1] 'Note on the condition of the Jhansi ryot', see 'Evidence on Agricultural Indebtedness', *Report of the Indian Famine Commission* (1880).

statistics.[1] But there is no outside evidence for supposing any such changes. Only one thing is certain ; from the evidence before the Finance Committee and Famine Commission and other sources, the condition of the agriculturist at the end of this period was one bordering on extreme poverty.

[1] C. A. Elliot, 'A Note on Agricultural Statistics in India', ibid, Appendix II.

III

THE DECLINE OF HANDICRAFTS

THE urban industry of India, at the beginning of the nineteenth century, was mainly in the nature of handicrafts, producing fine textiles or other luxury products for the aristocracy. Though the urban industry was thus limited in its scope and extent, it was in a way very important, for it was the best organized industry in India and also it was the first to feel, on account of its position, the effects of foreign competition.

There is no doubt that in these handicrafts Indian urban industry had reached a high-water mark of excellence. The products of Indian industry enjoyed a world-wide reputation. The 'calicoes' and the '*corabs*' of Bengal formed an important item of the Indian trade in the trading days of the East India Company. The high quality of these artistic products has never been questioned. It was their special merit that while maintaining their high artistic standard they never sacrificed utility.[1] Dr Watson remarks: 'The Indian taste in decoration is in the highest degree defined. There is no waste of ornamentation. . . nor is there any lavish expenditure of ornament which so often purchased *show* at the expense of comfort.'[2] A Frenchman, M. Blanqui, when he saw the Indian section of the Great Exhibition of 1851, paid a high compliment to Indian craftsmen when he said: 'Les indiens sont les francais de l'orient pour le genie industriel.'[3]

The chief industry was, of course, the textile handicrafts. Among these the cotton industry was easily the first. The handicraft was spread all over India.[4] The muslin of Dacca was the finest and best known of all these. It was of this that a Manchester manufacturer,

[1] J. F. Royle, *Arts and Manufactures of India.* Lectures on the result of the Great Exhibition of 1851. First Series.

[2] J. F. Watson, *The Textile Manufactures and the Costumes of the People of India*, p. 5 (1867).

[3] Royle, op. cit., p. 534.

[4] For a general description and distribution of the handicrafts see Royle, op. cit., Sir G. Birdwood, *Industrial Arts of India* (1880), and T. N. Mukherjee, *Art Manufactures of India.*

when he could not rival its fineness, said deprecatingly that it was but a 'shadow of commodity'. In 1880, muslin was still produced in Dacca, but the quality had greatly deteriorated and the industry itself was rapidly dying out. It was an industry which depended entirely on the existence of a court, rich and luxurious. 'A piece of the finest muslin (Mr Mukherjee mentions), 20 yards long and one yard wide, could be made to pass through a finger ring and required six months to manufacture.'[1] With a court, fairly regular orders could perhaps be forthcoming, but without one, the industry was doomed. Besides at Dacca, muslins were made at Krishnagar, Chunderee and a few other places.

Next to muslins in importance were the fine cotton fabrics of all kinds manufactured practically all over India. Lucknow in the North-West Provinces was famous for its chintzes, Ahmedabad for its *dhotis* and *dopattas.* In the Central Provinces, Nagpur, Umrer and Paoni were well-known for their silk-bordered cloths. In the Madras Presidency the speciality was the *palampore* industry.[2] The fabrics of Madura and many other places were also famous.

Cotton manufactures were, of course, the most widespread; next to them came the manufacture of silk cloths. Of these the most famous were the *choppahs, bandanas,* and *corahs* of Murshidabad, Malda and other Bengal towns which were greatly in demand for export[3]; the fine flowered brocade work done at places like Benares and Ahmedabad, and the fabrics in double weaving of colours produced at Poona, Yeola and other places.

In woollens the best known of the artistic products were the Kashmir shawls, chiefly produced in Kashmir and in Amritsar, in Ludhiana and in several other Punjab towns. By 1880 the industry was rapidly declining and indeed this decline was so rapid that by 1895 the industry was already a mere tradition—a memory of the past.[4] The history of this industry is very interesting as showing within a short time the various phases through which the other handicrafts passed when they came into contact with a new set of conditions. The

[1] T. N. Mukherjee, *A Handbook of Indian Products* (1883).
[2] See article on 'The Decline of the South Indian Arts' by Pandit Natesa Sastri, *Journal of Indian Art* (1889-1890).
[3] J. Geoghagen, op. cit.
[4] Sir W. R. Lawrence, *Valley of Kashmir,* p. 375 *et seq.*

industry was originally confined to Kashmir but the fame of the Kashmir shawls was spread all over India and the shawls were in demand in the courts everywhere. In about 1830 a great famine occurred in Kashmir, which drove a great number of the shawl weavers to the Punjab. They settled in the Punjab towns and plied their craft there. By now Amritsar had become the chief emporium of the shawl trade. But at this time, i.e. about the middle of the century, a great change was coming over the industry. The shawls were becoming popular in Europe—especially in France—and the French traders were slowly getting control over the industry. In the sixties they had got almost complete control over it. They used to advance money to the weavers, and buy the finished goods from them. It must be said to their credit that they fought and resisted the evil of adulteration and prevented the introduction into the industry of aniline dyes—an event which has been considered by all experts on the subject to have been one of the main causes of the decay of Indian textile handicrafts.[1] But the Franco-German War was a great blow to the industry, a blow from which it never recovered. The war cut off the French demand effectually, and even after the close of the war, the change of fashion in France and other causes prevented the revival of the demand. In the sixties the shawl industry was perhaps the most flourishing art manufacture of the Punjab. But in the next decade it rapidly deteriorated; the evils of adulteration and the harmful aniline dyes rapidly crept in; the temptation to put cheaper and inferior goods on the market spoilt the reputation of the industry and the position of the weavers went from bad to worse. The shawl industry became a sweated industry. Simultaneously Paisley was beginning to bring out cheap imitations of the shawls. This was the final and the fatal blow. Under it the industry succumbed and, as remarked above, had already in the nineties become a mere tradition.[2]

Leaving aside the textiles and woven stuffs, there was the working in metals. Benares was famous all over India for its brass, copper

[1] But in Sir G. Birdwood's opinion the introduction by the French traders of European patterns of all kinds which happened then to be fashionable marked the beginning of the rapid deterioration in artistic merit of the industry. See Birdwood, op. cit.

[2] Lawrence, op. cit., and D. C. Johnstone, Monograph, *Woollen Manufactures of the Punjab* (1886).

and bell-metal wares. Other important centres of this craft were, in Bombay Presidency, Nasik and Poona; and in the south, Hyderabad, Vizagapatam and Tanjore. These were only some of the more important centres of an industry which was spread all over the country. Many other metal crafts such as enamelling, damascening and *bidri* work had also reached a high standard. The damascened work was particularly used in ornamenting arms, shields, etc. It was chiefly practised in Cutch, Sindh and Punjab towns like Sialkot, Kotli, Lahore, etc.

The towns of Rajputana also excelled in all kinds of artistic work especially enamelled jewellery, stone-carving, etc. The number of such handicrafts found throughout the cities of India was very large; and most forms of artistic handicrafts were practised at one place or another. In the handicrafts themselves, there was a good deal of division of labour. This division of labour was naturally not so minute and complete as in these days of improved mechanical appliances; but as far as the various appliances then used allowed it, division of labour was undoubtedly carried out in these artistic industries. For the attainment of any high degree of skill and excellence in any branch such a division was obviously essential. Thus, in the making of gold or silver thread, the materials had to pass through many different sets of workers. Side by side with this division of labour there was also some degree of localization of industry. But this localization was very imperfect.

Thus every important city had its full complement of the different handicrafts. Undoubtedly, on account of the forces of nature controlling the supply of raw materials or other causes, some handicrafts were localized in different parts of the country, for instance the shawl industry or the *papiermache* work in Kashmir.[1] It is also true that on account of the force of a long tradition and other similar reasons certain crafts became almost the monopolies of particular cities, e.g. the marble inlaying work at Agra.[2] Again, particular localities had become famous for their special products; instances of this might be cited in the *paithani* of Yeola which was famous throughout the

[1] Another good example is the sandal-wood carving of Mysore and South Kanara.

[2] The proximity of the marble quarries of Rajputana was certainly greatly responsible for the localization of this industry in Agra.

Maratha country, the *kincob* of Ahmedabad which was known throughout India, or the *phulkari* work of certain cities of north India. But these exceptions do not vitiate the point made. These specialized goods were generally only those requiring the highest skill in their manufacture and the demand for them outside the place of their production was very limited. The chief feature to be noticed is that the demand for the products of the handicrafts was confined, mostly, to the place where they were produced. The outside demand, except in a few rare cases, was insignificant. The restriction on the area of demand was the most serious limitation of the Indian handicraft industry. For it adversely affected its size and also the development of its internal organization.

Still, as compared with the other existing forms of industry in India, the urban industry was certainly the best organized. The great majority of the industrial population of India lived in villages, but they were ordinary artisans, most of them village servants, who plied their traditional occupations uninfluenced by the outside world. Here there was no specialization ; the economic organization was of a most primitive type. But in the bigger cities each craft was organized into guilds, which looked after the welfare and also the quality of the work of their members. Sometimes, as in Ahmedabad, the highest personage of the city was made the titular head of the guilds and called the 'Nagar-Seth' or the City-Lord. Sir George Birdwood gives the general constitution of these guilds as follows : 'Each separate guild is managed by a separate court of adlermen or mahajans, literally "great gentlemen". Nominally it is composed of all the freemen of the caste, but a special position is allowed to '"seths" or lords, chiefs of the guild who, ordinarily two in number, hold their position by hereditary right. The only other office-bearer is the salaried clerk or "gumasta".[1] In general with handicrafts everywhere each independent craftsman was not a big capitalist. He generally worked to order and worked on the materials supplied by his customer. But as far as the circumstances permitted the urban industries in India were well-organized, and provided that the demand for their products was forthcoming, they were in a flourishing condition. In short, at the beginning of the nineteenth century they occupied a very favour-

[1] Birdwood, op. cit., vol. I, p. 139.

able and important position in India's economic activity. In spite of this, we are confronted with the problem of a rapid decline both in the artistic excellence and economic importance of these handicrafts, a decline which, though in some cases it began as early as the end of the eighteenth century, became very marked about the middle of the nineteenth century.

The causes working towards this result were very numerous. But the most important of them were: (1) The disappearance of the native Indian courts; (2) the establishment of an alien rule, with the influx of the many foreign influences that such a change in the nature of government meant; (3) the competition of a more highly developed form of industry.

Of these, the first meant the cessation of the main source or rather the entire source of demand for the products of these handicrafts. We have quoted Mr Hoey above to show what effect this had on the handicrafts of Lucknow. The abolition of the court of the Nawab meant that the fine articles which were in demand by the nobles for state occasions and for display in durbars and other ceremonial occasions, were no longer required.[1] Wherever the court was abolished, handicrafts and arts began to decline. The process was naturally not rapid in the beginning. Though the court disappeared, the class of nobles remained; the reputation of the place could not be destroyed suddenly, and the manner of living of a whole class could not be changed at once. Thus the demand for the luxury goods survived the disappearance of courts in most places; but this was a steadily diminishing demand. The younger generation was brought up unaware of the splendours of the old durbars except by hearsay; and they had not the same inducement and means as of old to patronize the arts and the handicrafts. The same point is well brought out by another fact. For though British rule slowly extended all over India, many places did not come directly under it. The native feudatory princes, though shorn of much of their glory and wealth, still remained in many places. It is a suggestive fact that handicrafts

[1] The Nawabs of Oudh indirectly fostered a flourishing dyeing industry at Lucknow by a prescription that the nobles should appear in different coloured cloths on the different festivals, etc., during the year. The decline in the Lucknow dyeing industry after 1856 was very rapid. S. M. Hadi, Monograph, *Dyes and Dyeing: N. W. Provinces* (1896).

were still quite flourishing in many of the capital towns of these states, while they were dying out rapidly in the British territory. The examples of this were to be found in Kashmir, in some of the states of Rajputana and Kathiawar and in the Nizam's Dominions. But there is another consideration; not only did they create a demand for these artistic goods, but the princes also retained some of the best craftsmen, giving them a regular salary.[1] Thus the craftsmen, assured of their livelihood, could produce their wares and develop their ideas at leisure. All experts are agreed that craftsmen produce their best when they are not in a hurry to put their wares on the market. The point need not be laboured further but it is clear that the disappearance of courts struck the first blow at Indian handicrafts by steadily curtailing the demand for their products. The immediate effect of this was the stoppage of the production of the highest class of goods such as would be required only by princes and the highest nobles on a big state occasion. The ordinary demand did continue for some time even after this disappearance of the courts, but it invariably had a tendency to diminish steadily.

Still the deterioration of the handicrafts cannot be completely explained merely by the fact of the disappearance of the courts. For even where the courts remained, the decay, though slower, was as inevitable as in the British territory. The second reason partly accounts for this; for with the establishment of an alien rule, foreign influences, unfavourable to the existence of these handicrafts, made their way into the feudatory States also.

It has been pointed out above how the demand for the industry, maintained by the existence of the court, had been cut off. It is natural to inquire what was the new source of demand. The demand for the wares which the handicraftsmen produced could only come from the richer urban classes, and, therefore, one naturally turns to the classes which under British rule occupied the position economically held in the old times by the nobles of the court. No doubt, many of the descendants of the old noble families were still very rich, but being mostly landed proprietors and having now no attraction to remain in the towns, they had naturally retired to their estates. Their

[1] Sometimes the state conducted large manufactories on its own account. See Prof J. Sarkar's article, 'State Industries in the Mughal Empire', *Modern Review* (November 1922).

position was now occupied in the towns by two classes: (1) the European officials and (2) the new educated professional class.

With the demand for Indian wares created by the official class may also be classed the demand of European tourists. The effect of this demand on the Indian handicrafts was twofold. Firstly, it certainly arrested the decay of these handicrafts. The demand created by them was very small as compared with the demand created by the presence of an Indian court, but it was certainly a help to stay the rapidity of the fall. But the other effect, which the European demand had, is of a doubtful value. This demand undoubtedly tended to lower the artistic value of goods produced. A very striking example of this was seen in the Kashmir shawl industry, when the French agents began to introduce European patterns in the industry. But it was the same story everywhere. The Europeans introduced new forms and patterns, which the craftsman did not understand. They laboured to please their customers and assiduously copied these forms. The products occasionally were bad copies of the original,[1] but even when they were good copies, they lacked the life and vigour of the indigenous articles. In any case, the effect was disastrous to indigenous art. Mr Maclagan remarks very briefly on the state of the *koftgari* industry at Kotli thus: 'The workmanship here is declining and the prices rising; the result of indiscreet European patronage.'[2] And everywhere we see the same sentiment expressed. Indiscriminate European patronage was lowering the standard all round. But it was not only the introduction of new patterns and want of discernment in the case of the old. The demand of European tourists, which was one of the mainstays of these handicrafts, was again a demand for cheap goods. They demanded ornamental knick-knacks, souvenirs, etc., as cheap as possible, and they got them. But with the result that they also got extensive adulteration in the raw materials used and extremely hasty workmanship.

The next class which was the natural successor to the position of the nobles was the newly created educated class. This was mostly an urban and professional class, somewhat corresponding to the pro-

[1] 'European forms are also being copied and badly copied.' See C. J. Halifax, Monograph, *Pottery and Glass: Punjab* (1892).

[2] E. D. Maclagan, Monograph, *Gold and Silver Work: Punjab* (1890).

fessional section of the 'bourgeoisie' of the west.[1] This new class might have been expected to patronize the handicrafts. But it may be said that the demand from this class did not amount to even as much as the demand from the Europeans. Indeed, with a few exceptions they entirely turned their backs on the indigenous arts. One of the most harmful effects of a foreign rule is the imposition on the conquered peoples of the ideals of the conquerors ; and the newly created Indian 'bourgeoisie' showed itself during the latter half of the last century extremely ready to accept European standards and to pour scorn on everything Indian. This was specially so in the case of the arts. To follow European fashions was considered the hall-mark of enlightenment. Consequently the products of indigenous industries suffered. In the monograph of the Punjab silk industry we read : 'To wear silk is not the fashion it used to be in Sikh times or to the extent it still is in the Native States. European cotton goods, printed calicoes and cheap broadcloths have turned silken garments out of the field.'[2] Also from the North-West Provinces : 'The trade in the finer products of the potter's arts when of pure oriental design meets with no encouragement.'[3] Very often in the official monographs on these industries one comes across the remark : 'The demand is purely European.'

It was perhaps natural for this class to act as it did : it was itself entirely a product of British rule. But in a number of cases their tastes were almost forcibly fixed for them by some stupid rule or convention of European officials or by the fear of incurring their displeasure. Thus Mr Kipling explains the decay of the embroidered shoe industry : 'No sumptuary regulations to restrain extravagance in gilded shoes, and enforce the use of plain black leather could be half so potent as the unwritten ordinance, which permits an oriental to retain a pair of patent leather boots on stockinged feet and requires him to doff shoes of native make, when in the presence of a superior.'[4] But these were not the only adverse influences. In one peculiar case

[1] For an interesting account of the rise of 'bourgeoisie' in India see M. N. Roy, *India in Transition*, chap. i (1922).

[2] H. C. Cookson, Monograph, *Silk Industry* (1892).

[3] Dobbs, Monograph, *Pottery and Glass : North-West Provinces* (1895).

[4] Kipling. 'The Industries of the Punjab', *Journal of Indian Art*, No. 11 (1888).

British rule effectively killed a handicraft. This was the damascening and inlaying of arms, weapons and shields, which, according to Dr Royle,[1] was as late as 1850 common all along the north-west portions of India—in Cutch, in Sindh, in the Punjab. By removing the necessity for, and by an active prohibtion of, the use and possession of arms, the British succeeded in reducing this industry to the state of being confined to produce ornamental knick-knacks for European tourists and others.[2]

The establishment of British rule also affected handicrafts in another way, for it indirectly weakened the power of the guilds and other bodies which regulated trade and saw to the quality of the materials used. As soon as the supervising bodies were removed, many evils began to creep in immediately. These were, for example, the adulteration of materials, shoddy and slovenly workmanship, etc. These at once led to a decline in the value, artistic and commercial, of the wares.[3]

While, undoubtedly, the disappearance of the courts and the establishment of an alien rule contributed mainly to the decay of Indian handicrafts, the competition of European manufactures was also partly responsible for the process. This was especially the case in the matter of textiles ; and the finer branches of this craft were very readily hit. For the ordinary peasant wanted a cloth, which, though coarse, should be at once cheap and durable. This the European manufacturer was unable to produce at the price required ; thus the village weaver was more or less untouched by European competition ; and the urban weaver, who worked in a somewhat finer class of goods, had to bear the whole burnt of the competition. In the matter of quality, the Indian weaver could easily hold his own ; but, in the matter of price, he was hopelessly beaten by the machine-made goods. There is no doubt also that the great regard for every-

[1] Royle, op. cit.

[2] See above, Mukherjee, *A Handbook*, etc.

[3] Many of these trade organizations which supervised the quality of the work etc., remained in existence till comparatively recent times. Especially was this the case in such industries as wire and tinsel where it was necessary to guarantee the purity of the raw material used for keeping up the reputation of a place. See E. Burdon, Monograph, *Wire and Tinsel* : *Punjab* (1909). In many places, e.g. Lucknow and Delhi, the industry began rapidly to deacy as soon as the supervisory bodies vanished. See Hoey, op. cit., for similar experience in Kashmir Industries. See Lawrence, op. cit., pp. 373-4.

thing foreign by the Indian middle classes helped foreign goods a great deal in their competition with Indian textiles. The point must be emphasized here that foreign competition was not very important in this question. The more general preference for cotton in place of silk, for example, cannot be said to have been the result of the competition of foreign cotton goods with the indigenous silk industry, but rather shows a change of taste and fashion.[1] The competition of European cheap luxury goods with the products of Indian urban industry did not begin till very late, and by that time the indigenous industry was already rapidly decaying. In some cases, such as dyeing, the decay of the industry was directly due to foreign competition, but this is an exceptional case. The chief reason, then, for this decline was the cessation of the chief source of demand, and the change in tastes of the people.[2] But the rate of decline was greatly furthered by the conjunction of other causes. How rapid this was will be gathered from the fact that, for example, some crafts noticed by Sir George Birdwood in 1878 in Lahore were no longer existing there in 1888.[3] The decay was both in artistic and commercial value. The very great difference between the artistic merits of the old and the new was very well seen in Delhi Exhibition of 1902.[4] It is very instructive to observe that the very highly praised Bhavnagar house at the Delhi Exhibition of 1902 had been especially prepared by the order of the Maharajah, by artists working strictly according to ancient rules.[5] But for such work leisure and certainty of demand were two things required above all, and such conditions did not obtain any longer. Efforts to revive the arts and crafts have been numerous of late years. They have been slightly helped by the schools of art,

[1] In Burma, where popular tastes in this matter have not changed the position of silk is unaltered; though lately the indigenous silk industry is suffering from the severe competition of Chinese and Japanese cheap silk products.

[2] The change of taste also came about, though later, in the Native States with the same effect. Mr Collin in 1890 states: 'Bengal is very deficient in arts. They formerly flourished in the shadow of the courts of Native Princes and have disappeared with them. Modern Rajas appear inclined to patronize foreign productions than the arts of the country, and the native artists have not adapted themselves to the times.' E. W. Collin, *Report on the Existing Arts and Industries of Bengal*, p. 12 (1890).

[3] See Kipling, 'Industries of the Punjab', op. cit.

[4] G. Watt, *Art at Delhi* (1902).

[5] Ibid., p. 18.

etc., and the movement has also been carried on by men like Messrs Havell and Kumaraswami. These have borne a certain amount of fruit. The new school of painting in Bengal, which draws its inspiration from the old Indian painting tradition, is an example. But these efforts are in the direction of art, properly called, and not industrial art or artistic handicrafts. In some of these, new patterns have been introduced and new methods tried, but the tastes of the people are not yet refined enough; and nowadays the competition of cheap foreign luxury goods damps the ardour of the revivalists. The process of decay, begun by the establishment of foreign rule and helped on by the force of foreign influence, was completed by the competition of foreign goods. And towards the end of the last century, the urban industry of India had only two courses left to follow, either to change its methods and turn out cheap art wares—products generally of a terribly sweated industry—of doubtful artistic value, but paying commercially like the art industries of Japan, or keep to their old standards and face decay—slow or rapid.

This was the history of old Indian urban industry, then the most important form of organized industry in India. For a time, now, there was a relapse, a retrograde step, and India in the eighties afforded the spectacle of a huge country with decaying handicrafts, with any other form or organized industry almost non-existent and a consequent falling back upon land. The decay of urban industry certainly heightened the pressure on land, not so much by an active migration from the cities (not that this was entirely absent), but by the retaining of people on land who would, otherwise, have been in due course absorbed into the urban industries. For this population it was necessary to find an outlet, and thus we come to the question of the new forms of industry which were being introduced into India at this time.

Note.—It will be observed that throughout the above chapter the word handicraft has been used in a peculiarly restricted sense. It has been used to mean only the luxury and semi-luxury industries, which were the peculiar urban industries of India. It will be seen also that a twofold division has thus been made in the old Indian industry. On one side are the village industries, which included the village servant class of artisans and also such classes as the country weaver, goldsmith, etc. The characteristic of this class was that they were spread throughout India. This class of industry was also con-

fined, more or less, to the primary needs of man and the organization of industry was of the crudest. The second class is that of urban industry, better organized and confined to the higher class of products. The division is obviously of a rough nature. In the village a luxury industry was a very rare phenomenon ; but in the town there were always some industries, which were akin in the nature of their products to the village industry group ; for example, a certain amount of coarse weaving, ordinary pottery work, etc., were always to be found in the towns. (But even in this the urban worker was generally better organized.) Again the twofold division, as regards the same craftsman even, is somewhat fallacious, for a brass and copper smith, who produced artistic wares, might also habitually produce common utensils. In spite of these somewhat obvious defects, the twofold division is in the main true. For though there was a common artisan industry in the towns, the handicrafts were by far the most important and significant section of urban economic activity in India.

There were, however, certain other industries in India, which cannot be included in any of the above classes. The group of industries, as a whole, was not very important, but it contained certain important industries. The group included the iron-smelters of Mysore, Chota Nagpur, Central Provinces and other places, the saltpetre worker, the bangle-maker, and the general worker in glass, also the paper-maker, etc. These cannot obviously come under any of the above groups. They were mostly localized industries, carried on only in some parts of India. A good many required special knowledge on the part of the workers. In many, organized working was necessary on account of the peculiarities of process and other reasons. The specialization of these industries, in peculiar localities, was almost entirely due to the nature of the supply of the raw material. This accounts for the location of the iron, the saltpetre and the glass industries. Some, such as iron-smelting, were industrially very important to the country, and their products used to find their way all over the country. The methods employed were generally crude and uneconomical, but the products, as in the case of Mysore steel, were sometimes of a very high quality. But all these miscellaneous industries were already dying out. An unwise tariff and the discovery of Chili nitrates gave a serious shock to the saltpetre industry ; the iron-smelting industry was suffering from the great rise in the price of charcoal—

due to the reservation of forests and the extension of railways—and the competition of important pig-iron. The glass and paper industries were also succumbing under the pressure of imported goods. Thus the opening up of the country was resulting in the killing of all indigenous industries.

IV

THE BEGINNINGS OF MODERN INDUSTRY

Section I

The Plantations

We now arrive at a consideration of the new forms of industry which were being introduced into India at this time. It should be observed that there were two forms of such industrial activity now being introduced. The first was the plantation—a form of industry to be found extensively in most of the tropical possessions of European countries, and the other the factory industry—the peculiar product of the latest economic transition in Europe.

The plantation was the first to be introduced into India ; from the beginning the industry was purely European. It was the beginning of European exploitation of Indian resources. It is perhaps surprising that till the middle of the nineteenth century there was very little part taken by Europeans in industrial activity in India. But the many restrictions placed on Europeans permanently acquiring land in India (placed by the East India Company to safeguard its interests), the trading monopoly of the Company which lasted till 1833, the lack of internal communications, and also the deplorable lack in India of fertile but sparsely populated tracts, hindered the early growth of such activity. But as some of these obstacles were slowly removed, we find an enormous growth of European industry in India, especially during the years 1860-70, as evidenced by growth of the tea, coffee and jute industries.

The indigo industry is an exception to the above statement, for the manufacture of indigo by European planters began in India before the end of the eighteenth century. Indigo had been grown in India from ancient times, having been chiefly produced, in Dr Watt's opinion, in Gujerat and Western India.[1] The trade in the indigo dye was carried on extensively by the East India Company, but towards the end of the eighteenth century, on account of the competition from

[1] G. Watt, *Pamphlet on Indigo* (1890).

America and also on account of adulteration of the dye, the trade fell off a good deal; and the western Indian industry almost died out. The East India Company resolved to revive the industry and for this purpose they brought planters from West Indies and settled them in selected districts of Bengal.[1] The Company's officers were also allowed to trade in indigo. This was towards the beginning of the nineteenth century and the establishment of the industry in Bengal gave the death-blow to the Gujerat industry. The next fifty years saw a rapid growth of the industry and by 1850 indigo was one of the most important exports from India. But though the trade and the profits of the foreign planter had been growing at such a rate, it is very doubtful how far the condition of the peasant had improved. As a matter of fact, his condition was worse in the indigo tracts than in other parts of the country. Lord Macaulay wrote about 1840: 'That great evils exist, that great injustice is frequently committed, that many ryots have been brought, partly by the operation of the law, partly by acts committed in defiance of the law, into a state not far removed from that of partial slavery—is, I fear too certain.'[2] The planters were, as a matter of fact, a body caring little for the law,[3] and being members of the ruling race had little concern for the interest of the peasant.

The system on which indigo was cultivated was not strictly a plantation system. It was only rarely that the manufacturers of indigo cultivated their own lands by means of hired labour. The usual system was to enter into contracts with tenants of other zemindars or of lands over which the planters themselves had acquired zemindari or talukdari rights, to sow a certain portion of their land with indigo, which was sold to the planter at a certain fixed price.[4] Though the

[1] ibid.

[2] Quoted in op. cit., p. 14.

[3] There was almost no order kept; and many of the planters kept a band of desperadoes under them to fight neighbouring planters and zemindars. For an amusing account of 'How one took possession of a factory (indigo) in Bengal in 1830', see M. Wilson, *History of Behar* (1908). This book is full of such incidents of violent fights, and exhibits well the entire disregard of the planter for law.

[4] The very small amount of *nij cultivation* i.e. cultivation under the system of planters growing their own indigo, showed that the planters preferred the peasant to grow indigo for them and to buy it at a fixed price from him. *Minute of the Lieutenant-Governor of Bengal on the Report of Indigo Commissioners* (1861).

abuses of the system had been long recognized, nothing had been done to ameliorate the condition of the peasant. Advances were generally made at the beginning of the agricultural season to the peasant to grow indigo, and many a time they were forced upon him. The ryot when he once took the advances was ruined. The Indigo Commissioners say in their *Report*: 'It matters little whether the ryot took his original advances with reluctance or cheerfulness, the result in either case is the same; he is never afterwards a free man.'[1] In view of the large areas under indigo in Bengal and Bihar the following extract from the Commissioner's *Report* is enough to condemn entirely the system under which indigo cultivation was carried on. They say: 'Even the most advantageous statement made on favourable suppositions shows but a slight profit derivable to the ryot from indigo, and it is quite clear from statements as to the production of rice, not to speak of the higher kinds of produce, that indigo as a paying crop must stand very low in the scale.'[2] Only one inference can be drawn from this, even apart from the direct evidence of coercion produced before the Commission, and that is that indigo cultivation was carried on on a system which had no connexion with the welfare of the peasant. Such was the system of indigo cultivation and such it remained. The progress achieved in the spread of indigo cultivation in 1860 was not exceeded during the next twenty years. By now, the indigo industry had grown to almost the maximum of its capacity and henceforth it remained almost stationary.

The tea industry in India began much later than indigo. The indigenous tea plant growing in a wild condition in Assam was first discovered about 1820. The attention of the East India Company was directed towards it and after some enquiries an experimental garden was started by the Company in 1835. After working it for five years the East India Company made it over to the Assam Company—the

[1] *Bengal Indigo Commission Report*, p. 25.

[2] ibid., p. 18. But the general conclusions of the Commissioners and also of the Lieutenant-Governor were that the cultivator did not make even a small profit. The planters generally insisted on one-sixteenth of the land of the ryots being under indigo. The loss on this is compared to the following case: 'This is as though a farmer in Great Britain farming under a long lease 160 acres of land at a rent of two pounds an acre, were, by some sort of pressure, forced to cultivate ten acres, say in flax, which he was compelled to sell to a neighbouring manufacturer at a dead loss of £140 a year.' *Minute of the Lieutenant-Governor*, p. 12.

first Indian tea company. The progress during the next twelve years was almost nil. In 1852 a private garden was started and then the number of gardens began to increase. It may be said, however, that the foundations of the present tea industry were laid between 1856 and 1859.'[1] From the latter date the rate of growth was indeed amazing, both in the number of estates and the outturn of tea. The following figures give the details for Assam which, at this time, was by far the most important area of tea production in India.[2]

Year	No. of estates under distinct proprietors	Area under cultivation (acres)	Outturn of tea in lb.
1850	1	1,876	216,000
1853	10	2,425	366,700
1859	48	7,599	1,205,689
1869	260	25,174	4,714,769
1871	295	31,303	6,251,143

The figures for 1869 do not show clearly the feverish growth which took place in the industry during 1859-66. To understand this phase of the industry, it is necessary to see how the industry was conducted at this time. The grants for tea lands in Assam were mostly made in the fifties, under the Assam clearance rule of 1845. These, though they did not protect the rights of the wild tribes inhabiting these tracts, provided against grants being recklessly made to speculators, the guarantees being the deposit for making a proper survey and an obligation to bring a certain proportion of land under cultivation in a certain number of years, etc. The local officers at first exercised a good deal of discretion in favour of the rights of the native tribes, and they were careful to see that the applicant had sufficient means to cultivate the land before allowing his application. But in 1859 the speculators, naturally averse to these restraints, brought pressure to bear on Government. The Government was very anxious to promote the industry and 'the practice of requiring applicants to show that they had means to cultivate the land was forbidden'.[3] A rush of applications followed and an orgy of speculation ensued. The estimates

[1] Edgar, 'Note on the Tea Industry in Bengal', *Papers Regarding the Tea Industry in Bengal*, p. 7 (1873).
[2] 'Memorandum by Mr Campbell on Tea in Assam', ibid., p. 128.
[3] Edgar, ibid., p. 11.

formed by everybody of the future of the tea industry were extremely rosy and, with the relaxation in the rules under which grants of land were made, the way of the speculator became extremely easy. As regards the survey of these grants Mr Edgar says : 'In most cases the compass ameen (i.e. the Government Surveyor) sent in a fancy sketch of an almost imaginary tract of land, which was generally found, when the professional surveyor went over the ground some years later, to bear very slight resemblance to the real grant. Sometimes the grant had no real existence whatever, sometimes it was far away, in wilds inhabited by wild tribes who owed merely a nominal allegiance to the Government and who would probably have taken the head of the grantee if he had attempted to take possession.'[1] But the grantee generally had no idea of taking possession ; what he did was to sell the grant to companies financed in London for the purpose of working tea gardens ; and even if the grantee took possession he had no idea of taking the cultivation of tea seriously. The general attitude of the actual planters is reflected by a saying, current amongst them at that time, 'that it was doubtful whether it would ever pay to make tea, but there was no doubt that it paid to make the gardens.'[2] The gardens were not only planted carelessly but 'often was a small garden made of 30 or 40 acres sold to a company as 150 or 200 acres'.[3] A most remarkable instance of such practices, given by Mr Campbell, occurred in the Nowgong district, 'where the Indian manager of a promoter of companies in London was advised by his employer to clear and plant a certain area of waste land for delivery to a company to whom he had just sold it as a tea garden.'[4]

Such enormous speculation and the hasty way of clearing wild waste and the planting of tea, brought up the question of labour in a very acute form. Up to about 1860 the local labour supply though scanty had been sufficient for the needs of the tea gardens. During the speculation craze the demand for more labour became insistent and coolies had to be imported from Bengal to meet the demand. These coolies were generally imported at this time through the agency of contractors of labour in Calcutta. The price of labour had risen

[1] ibid., p. 8.
[2] ibid., p. 11.
[3] ibid., p. 9.
[4] Campbell, ibid., p. 125.

very high and it paid the contractors to get together any kinds and conditions of coolies they could, and send them on to Assam. The method of transportation was extremely imperfect and a large proportion of these coolies died on the journey ; and when they did reach the gardens, their miseries were 'in too many instances cruelly aggravated by the ill-treatment of their employers'.[1] The coolies were in most cases deceived as to their future prospects and when they reached Assam their position was that of virtual serfs, for the time of their contract. If they ran away they could be arrested[2] and brought back and they could even be imprisoned for refusing to work. To this legal coercion were added many illegal practices of the planters, such as flogging.[3] The position of the cooly was worst during these years of speculation but it tended to improve slightly in later years.

The enormous speculation in gardens brought about a sudden reaction in 1866 ; all tea property depreciated and all the 'bubble' concerns failed. There was a great deal of distress among young men who had come out to manage tea gardens. The depression in the trade was very severe and lasted till 1869, when matters began to improve, and by 1871 the tea industry was placed on a firm basis. After this the progress of the industry was steady for more than two decades. The cultivation spread to other parts of the country such as the Punjab (Kangra) and the Nilgiris, and the industry, now on a sound basis, prospered greatly.

Coffee was first introduced into India by the Moor traders in the seventeenth century, and its cultivation was undertaken in many parts of south India.[4] It did not attain importance, however, till its production was undertaken by European planters. The first coffee garden was planted by a European in 1840 ; the industry thus started did not, however, flourish till 1860, when causes, such as the declension in coffee cultivation in other countries, helped to increase the extent of the industry rapidly. The compiler of the *Mysore Gazetteer*, in

[1] Edgar, ibid., p. 21.

[2] Powers were given to planters by the Act of 1865 to arrest runaway coolies from their estates.

[3] The usual methods of recruiting labour, afterwards, were through contractors ; or through a selected employee (called a garden 'sardar'), sent by individual employers to his home to get labour directly for the garden. The evils of this system are brought out well in the *Report of the Committee on Labour Supply in Tea and Coal Industry* (1896).

[4] See Watt, *Dictionary of Economic Products*, article on Coffee.

reviewing the growth of the industry in the Kadur district, remarks: 'Since 1860 estates have sprung up between these points with such rapidity that European planters are settled in almost a continuous chain of estates from the south-west of Shimoga to the southernmost limits of Manjarabad, not to mention Coorg and Wynaad beyond.'[1] During the first decade after 1860 alone the exports of coffee increased nearly tenfold and the same rate of increase continued till 1879. From 1860 to 1879 was a period of continuous and uninterrupted progress and prosperity for the coffee industry. But already in 1875 the borer disease was creating havoc among the plantations and it increased in its intensity in 1879. This was the beginning of the severe check which the industry suffered in the next decade.

Labour for working these plantations was imported from the neighbouring districts. A good deal of this labour was temporary and consisted of agriculturists who came in when the agricultural operations for the season were over. Here also there was an Act giving the planters control over their labour, but it was not very stringent. The labour force in this industry was not far removed from its home, nor were the districts in which the industry was conducted unhealthy and, therefore, the condition of labour was much better than that obtaining in the tea industry.

With the introduction of the investment of European capital in India, a new factor in its economic development was introduced. Hitherto Europeans had been content with their share in the commerce of India. They were the carriers of India's foreign trade, but had as yet taken little direct share in the growth of Indian industry. Now, with the growth of plantations and the jute industry, a new source for the finance and business management of Indian industries became available. This factor, which began to be prominent after the middle of the nineteenth century, was destined to play a very important part in the industrial progress of India.

SECTION II

The Factory

The factory industry, which is the form of industry which took the place of handicrafts during the nineteenth century almost everywhere,

[1] L. Rice, *Mysore Gazetteer*, vol. II, Kadur District, p. 375 (1897).

also finds its beginnings in India during this period. Attempts had been made for a considerable time to introduce the factory system in many industries, notably by Europeans. Some of them had at least a temporary success. For example reeling machinery had been introduced in silk filatures by the East India Company and the industry had been for some time quite prosperous.[1] But most of the other pioneering attempts had met with decided failure. Thus before the fifties there was—if we exclude the indigo factories—an almost entire lack of factory industry in India. It was during the fifties that the two industries which have always been the foremost among modern Indian industries were started.

The cotton industry, as being the more important, may be considered first. The company which built the first cotton mill in India was the Bombay Spinning and Weaving Company which was formed about 1851; but the mill does not appear to have been in working order till 1854.[2] The progress of the industry was naturally very slow at first and by 1861 only a dozen mills were in existence. The first mill was built very near Bombay though not on Bombay island itself, and the industry continued to grow round Bombay. The decade 1860-70 was not very favourable to the growth of the mill industry. One of the chief unsatisfactory features was the high price of raw cotton, on account of the American Civil War. This high price of cotton hit both the hand-loom industry and the young mill industry of India. The other reason was a severe trade depression in Bombay which followed the enormous cotton boom. This cotton boom has already been noticed as marking the advent of a new economic era in India. Its aftermath was also typical of the new conditions that were being introduced. The trade crisis, which followed the reckless floating of companies for all possible and impossible purposes and the resulting collapse of all credit, was the first of its kind in India.[3] It might be noted here that this depression in western India coincided, in point of time, with the Assam tea trade depression. The collapse of credit in Bombay in 1865 was indeed so complete that normal conditions were not restored till 1871. The result was that there were only eighteen

[1] The Serampore paper mills which were also built in the twenties continued to prosper for many decades.

[2] See article in Watt, op. cit.

[3] D. E. Wacha, *A Financial Chapter in the History of Bombay* (1910).

cotton mills in the Bombay Presidency and two in Bengal in 1872-3. The crisis, however, had one good result for the cotton mill industry. It demonstrated the impracticability of the numerous schemes that had been launched during the boom period and also showed that the cotton industry was the only stable and profitable industry. Thus as soon as trade confidence was restored there was a very great increase in the number of mills. The increase was specially marked in the year 1874-5. In 1874 the number of mills in the Bombay Presidency was nineteen, in 1875 it had risen to thirty-six, to thirty-nine in 1876 and forty-two in 1878.[1] The increase in the industry during this decade, especially after the effects on trade of the Franco-German War had passed away, was very considerable and it now definitely took the position of the most important factory industry in India. The extent of the industry in 1879 was—

Mills	Spindles	Looms	Persons employed
56	1,453,000	13,000	43,000

Of these mills nearly three-fourths were situated in the Bombay Presidency and more than half the total on Bombay island itself. The number of looms as compared with those of the spindles was very small and, indeed, many of the mills were only spinning mills. This predominance of the production of yarn continued to be an important feature of the industry for a very long time.

Leaving aside the spinning and weaving industry, quite a considerable number of persons were employed in another cotton industry—the ginning and pressing factories. Till the sixties most of the cotton sent to the ports from the interior of the country was unpressed and a few presses were established in the more important ports like Bombay. But the impetus given to cotton cultivation by the American War and the rapid growth of communications had the effect of introducing the use of steam presses, and later on of steam gins, in the cotton tracts themselves. This introduction was not very rapid,

[1] The statistics are taken from the evidence before the Bombay and Lancashire Cotton Spinning Enquiry (1888).

and Mr Rivett-Carnac mentions that till 1867 presses were but little used in the Central Provinces.[1] It was only after 1867 that their number began rapidly to increase in that province. Most of the cotton was, till then, sent to Bombay unpressed. Once introduced, the progress of gins and presses was rapid and by 1880 only a small quantity of cotton was sent unpressed to the ports out of the cotton tracts. This industry, though it employed considerable numbers and gave a very much needed occupation to one class of agricultural labourers in the country, was not one of very great importance in the industrial development of India. For, firstly, the industry was only a seasonal one and secondly, it did not convert raw produce into a manufactured article, but only helped towards the easy export of the raw produce.

Next in importance to the cotton industry comes the jute industry. The trade in jute had been important since the early days of the East India Company, the purposes for which it was chiefly used being the manufacture of cordage, ropes, etc. Till about 1830 the manufacture of gunny-bags and jute cloth was the monopoly of the Bengal hand-loom weaver.[2] After this date, an active manufacturing industry having sprung up at Dundee, it was found more profitable to export raw jute than to produce gunnies on the hand-loom. Thus the years following 1830 saw a rapid decline in the jute hand-loom industry of Bengal. The importance of jute as a material for cordage, ropes, sacking, etc., was also growing rapidly and more and more land was being placed under jute annually. The rise in the importance of jute was greatly helped by the Crimean War, which for a time cut off the supplies of Russian hemp, a powerful competitor of jute.[3] The manufacture of jute with the help of machinery was not started in India till 1854. In that year a jute mill was established at Serampore by one Mr Ackland. From 1854 to 1863-4 only one more mill was built, but from 1863-4 onwards the growth of the industry was fairly rapid. Jute was a monopoly of India and in this the Bengal industry had a strong advantage. Hitherto Dundee, which had successfully killed the hand-loom industry, controlled the entire market.

[1] *Report*, 1868-9, p. 91.
[2] Article on jute in Watt, op. cit.
[3] H. C. Kerr, *Report on the Cultivation of and Trade in Jute in Bengal* (1874).

But the Bengal industry soon established its position. Of this Mr O'Connor, in 1876, remarks: 'While Dundee had only hand-woven jute stuffs made in India to compete with, that city had practically the monopoly of the world's supply; but the development of the manufacturing industry here, in mills furnished with the best mechanical appliances moved by steam, has had the inevitable result of shutting Dundee out to a great extent from the Asiatic and Australian markets, and even from a part of the American market.'[1] In 1882 there were in India twenty jute mills employing nearly 20,000 people. Of these mills eighteen were in Bengal and seventeen in the immediate vicinity of Calcutta. The industry was even more localized round Calcutta than was the cotton industry round Bombay. The first jute mill was started by a European and the industry remained always mainly in the hands of Europeans. With the growth of the export trade in raw jute, the jute pressing industry had also begun to acquire importance in Bengal.

Apart from these factory industries modern methods had begun to be used in the mining of coal also. At this date coal was the only mineral product produced in considerable quantities in India. 'The commencement of the industry appears to date back to 1820 when a mine was opened in the Raniganj district in Bengal. For twenty years after this no new mine was opened and then only three mines were opened down to 1854. In that year the commencement of the East Indian Railway line, which was laid to run through the coal-bearing regions of the Damuda basin, gave an impetus to the mining industry and new pits were opened in large numbers.'[2] The progress was steady and this region, i.e. Raniganj and neighbouring districts, contained in 1879-80 altogether fifty-six mines at work. It was natural that with the building of railways in India coal mining should have received an impetus. Not only because before this there was very little demand for coal for industrial purposes, but also because it was impossible to transport coal from these districts cheaply enough without the help of railways. The railways themselves needed enormous amounts of fuel and when, with the rapid disappearance of the forests which lined the first railway lines, wood became dearer

[1] J. E. O'Connor, Memorandum, *Account of the Trade and Navigation of British India*, 1875-6, p. 31.
[2] O'Connor, *Review of the Trade of India*, 1878-9, p. 22.

and dearer, the demand for coal became more insistent. This demand was the cause of an active import trade in coal from the United Kingdom to India.

Up to the year 1870 the Raniganj coalfields were the only ones to be exploited. These supplied coal to the East Indian Railway and sometimes coal from these fields was carried even to the Punjab, but the railway systems of the west and south of India were entirely without access to these supplies. In 1870 the Mohpani deposits in the Central Provinces were opened up but the quantity produced there was insignificant, and they never became very important. In the same year coal was mined in the Karharbari district of Bengal, which became quite important in a few years' time. In 1874-5 another coal-field, that of Warora in the Central Provinces, was opened up. This helped partly to supply the Great Indian Peninsula Railway with fuel, but even so the Bengal coalfields remained by far the most important, and the needs of western Indian railway systems and industries were not at all adequately provided for. The opening of the Suez Canal temporarily depressed the Indian coal industry. The imports after 1870, i.e. after the date of the opening of the Canal, did not rise greatly, but the Indian production of coal seems to have suffered a temporary set-back, for the production of coal, which was in 1869 approximately 467,000 tons, went down considerably in the next three years and did not again approach the old level till 1875-6. From this date onwards it continued steadily to progress.[1] But, though the production of Indian coal was increasing, the import of foreign coal was also increasing steadily. This was chiefly on account of the rapid extension of railways in India and on account of the fact that many of these railway systems were unfavourably situated as regards the Indian coalfields. Seventy per cent. of the coal imports into India were taken up by the Bombay Presidency. Thus in spite of the growth of coal-producing activity, India in 1880 was still importing about 600,000 tons of coal annually, while there was almost no export of coal from India. The methods used in the industry varied greatly, for while in the larger concerns machinery was largely introduced even at this early date, in most of the smaller pits very little machinery was used; the number of the latter class of concerns was very much larger than of

[1] V. Ball, *Economic Geology of India* (1881).

the former class. The coal industry in 1880 gave employment to about 20,000 people.

The three industries—the cotton and jute manufactures and the mining of coal—were the only important industries in India in 1880. It will be seen from the number of people engaged in them how small even these industries were. But though these were the only industries which had grown by 1880, spasmodic attempts had been made to establish the factory system in many industries, which met with a varying degree of success. For example, in 1869 a beginning was made in the direction of producing leather manufactures by modern methods, when Government established a factory for supplying leather goods to the army. Among the many other attempts made might be mentioned the various attempts towards establishing a glass factory in the North-Western Provinces and the earlier attempts to establish an iron industry in the Madras Presidency. An account of these attempts is unnecessary, for the large majority of them bore no fruit.

There was an interesting industry in India at this time which has some claims to be called a modern industry. This was the Madras tanning industry. The industry owed its origin to one Charles De Susa who, about 1845, introduced certain improvements in the methods used in tanning in India.[1] This was in Madras City and slowly these improvements spread to the other important towns of the Madras Presidency. But the improvements never spread beyond this Presidency. They were adopted by a large number of tanners and an export trade in Indian tanned hides and skins grew up. At first the trade was carried on with the United Kingdom only, but after the Franco-German War Germany became very active in the trade and this, combined with the repeal of the 3 per cent duty on these exports in 1875 and the extension of railways, which opened up the country supplies of hides and skins to the Madras tanner, made the industry exceedingly prosperous ; and by 1880 Madras was exporting a large number of tanned and half-tanned hides and skins to foreign countries. This Madras tanning industry showed an intermediate stage in the development of Indian industry. For it displays the effect of a slight adaptation of improved methods in industry, combined with

[1] A. Chatterton, Monograph, *Tanning and Working in Leather in the Madras Presidency* (1904).

cheap raw materials and cheap labour. The independent artisan disappears from this branch of the trade and the small capitalist—in the person of the export trader in most cases—steps in. The unit of the industry is increased ; it became a small workshop with an average of about five to seven workers. The industry had to be a purely export industry ; for the village leather-worker tanned the leather that he wanted himself or got it tanned from the village tanner; and the urban demand for leather goods was not large enough to support an industry of this kind. But it is to be remembered that the improvements adopted in the industry were only slight. They were just sufficient to produce a leather somewhat superior to the ordinary Indian village tanned leather, and to make it fit for export. The industry grew only because it had two distinct advantages, those of cheap labour and cheap raw materials, and the loss of even one of these was enough to arrest its growth. It is impossible to estimate the number of people employed in this industry, but it could not have been very large.

The above account of the few new industries in India will conclusively show that the extent of these in 1880 was exceedingly small ; and that, while the process of driving out people from their old crafts was proceeding quickly, the growth of new industries to absorb the people thus displaced was in no sense proportionate.

V

THE AGRICULTURIST, 1880-95

THE village in India is *the* unit of agriculture and, therefore, the general constitution of the village is of great importance to us. India has always been a land of small holdings, whether worked by peasant proprietors or cultivating tenants. The rights that the peasant possessed over his land were dependent on the nature of his tenure. The variety of the tenures in India is rather complex, but there are two broad divisions among them. These are the 'ryotwari' and the landlord tenures. The great majority of the villages in India came under either of these two divisions. In the ryotwari tracts there was no single ownership over the whole village. The village consisted of a number of independent peasant proprietors. In the landlord village, on the other hand, it was owned by a single landlord or a group of co-sharing landlords. Where a single landlord owned the village, all the cultivators were his tenants. In the co-sharing landlord village the practice differed ; in some, the whole of the cultivation was carried on jointly and there was no definite division in different plots of the different co-sharers ; in others, such a definite division of plots existed. Again, sometimes the joint landlords with their families worked the whole village, but sometimes, also, they admitted cultivating tenants in the village. Of these different systems the ryotwari tenure predominated in the south, the single landlord system in Bengal, while the co-sharer villages were mostly to be found in the North-West Provinces and the Punjab.[1]

These different tenures did not make a great deal of difference in the internal constitution of the village. As regards the village artisans in the landlord village, they owed special duties to the landlord, but otherwise their position was not greatly different from that of the corresponding class in the ryotwari village. The common bond holding together the ryotwari village was the power of the headman and the presence of common artisans paid by the village, while in

[1] B. H. Baden-Powell, *A Short Account of Land Revenue and its Administration in British India* (1913).

the landlord village it was the single or group ownership. It is to be noticed that in the cultivated area of the village there was no communal property; each cultivator had his own holding and was generally free to manage it in his own way.[1]

Of course, in the first half of the nineteenth century, the nature of the cultivation was dictated by the self-sufficient character of the village. The bulk of the produce had to be the food-grains, consumed in the village, and such crops as oil-seeds, cotton, etc., grown for local requirements. There were only two important kinds of agricultural produce which, on account of their nature, could not be grown generally all over India. They had thus to be grown to be sent out of the village. These were cotton and sugarcane. The trade even in these was of a limited extent and the area it covered was also limited. Thus cotton was extensively grown all over India in small patches round the village, and the only regular stream of commerce in this article was the supply, to Bengal, of cotton from Nagpur and Berar via Mirzapur. In Bengal even, cotton of a fine quality was grown. For it is well known that the yarn for Dacca muslins was spun out of cotton grown round Dacca itself. Sugarcane, again, was a crop which required intensive cultivation and a regularity and abundance of water supply, which were not to be had everywhere. Sugarcane cultivation was, therefore, localized a great deal. Being a very important commodity, *gur* (Indian raw sugar) was, therefore, next to cotton, perhaps the most important trading item in Indian agricultural produce. But the extent of such cultivation was limited. Royle has been quoted above[2] to show that in the most favoured cotton tracts as much as one-fourth of the land cultivated was under cotton. But it is doubtful how far this estimate is correct. In 1867 Rivett-Carnac's statistics show that in Berar—one of the most favoured cotton tracts of India—only 27 per cent of the cultivated land was under cotton; and this just at the time of the great extension of cotton cultivation. Even one-fourth, for a specialized crop, is not a great deal, especially when we consider that the major portion of the crop did not go far

[1] Baden-Powell doubts whether even in an undivided joint-village there was any joint cultivation under the control of the *Panchayat*. He thinks that, even here, there was a *de facto* division of land and the cultivation carried on separately by the different co-sharers. Baden-Powell, *Indian Village Community*, p. 25. (1898).

[2] See above, chap. ii, p. 13.

out of the village. A restriction in cultivation of this nature was a natural result of the self-sufficient character of the village.

We have described some of the remarkable results that the spread of communications and the creation of a market had on the cotton cultivation of India during the sixties. But these effects were specially brought into relief during the period under review. The Lancashire cotton famine was temporary ; the Suez Canal, which was an important factor in the increase of India's export trade, was only opened in 1869 ; just after came the Franco-German War and next the famines. The decade 1870-80 was thus not normal enough to show the effects of the new conditions fully. But even in this decade, the rise in the export of wheat showed the general tendency. The famines temporarily stopped the growth of this trade, and it was during the years 1880-95 that the phenomenal expansion in the export of Indian raw produce took place. This could happen only because, during this period, India was singularly free from any famines of a serious nature. There were local scarcities and failures of rainfall, but there was no widespread famine such as the one in 1876-8 and the two that followed 1895.

Though an immunity from serious famine cannot be said to imply necessarily a period of prosperity, it at least means for the mass of the population a period free from severe distress. These fifteen years, taken as a whole, were for the agriculturist a period of comparative prosperity. In certain parts this spell of prosperity was broken by occasional local scarcities. For example in 1884-5 there was a scarcity in Bengal, an almost complete failure of the rice crop of Chhatisgarh in 1886 and again in Orissa in 1889. The rains between 1890-95 were irregular over some parts of the Madras Presidency and the Central Provinces. But in spite of these the period was for the cultivator generally speaking favourable.

By the cultivator is here meant the peasant proprietor or the landowner, who was in a position to profit from a series of good harvests and from an appreciation of the value of his produce. For the cultivator who was hopelessly in debt, or for one whose plot of land was not large enough to sustain him, these factors did not make any difference. So also to the landless day-labourer this period meant only the assurance of a somewhat continued period of employment. But to the peasant proprietors not hopelessly in debt the immunity from

famine meant a certain relief, and the chance of slightly bettering their condition.

The growing demand for Indian agricultural produce is also an important factor. For this resulted in many cases in a rise of prices of the industrial crops. Not only did the export trade rise, but also the internal trade in agricultural produce was rising rapidly. This enabled a better specialization of crop than had hitherto been possible. This is reflected in such movements as the adoption by Berar of cotton cultivation more and more, until it had to import a substantial portion of its food supply. Sugarcane was, for example, one of the most popular crops at this time, although there was practically no export trade in sugar.[1]

The best standards of agricultural prosperity are, perhaps, the area under cultivation, the nature of the crops grown and the extent of the live-stock of the country. In India's case any measurement, by any of these standards, however approximate, is impossible. The agricultural statistics are extremely defective; the first regular compilation of them was made for the Famine Commission of 1880 and was afterwards regularly continued. But Mr Baines' note makes it very clear how defective these were.[2] For the important province of

[1] The rise of export prices was not general. Prices of some articles, such as cotton and wheat, went down while prices of jute, rice and linseed increased a great deal. It will be observed that in the former, India was not an important factor in the world market, and here the prices went down; while in the latter group India was in each case the most important individual supplier to the world market; in this group there was a decided increase in prices.

Statistics of Prices—Export Wholesale
Prices of 1873 are taken to represent 100

Year	Cotton (Broch)	Rice (Balam)	Rice (Nagastain)	Wheat (Delhi)	Jute (Picked)	Linseed (Bold)
1883 ...	78	109	129	87	96	85
1889 ...	93	144	142	95	192	104
1895 ...	70	147	122	82	175	131

[2] 'Statement on Agriculture' by J. A. Baines, Appendix to the *Moral and Material Progress of India Report for 1882-3*.

Bengal, there were no reliable estimates ever published before 1897-8.

There are general indications that the area under cultivation was increasing. This increase was due to an extension of irrigation facilities and to new lands being brought under the plough. There were in India at this time no tracts of virgin unexplored soil, most of the new tracts that were now broken into cultivation being waste, or grazing areas, or cleared forest lands. These were generally inferior to the lands already under cultivation, and this movement might be taken as a result of the growth of population in India. There is, at the same time, nothing to show that the yield per acre of the land under cultivation in India was increasing.

There are again no indications that the nature of the crops grown was undergoing any radical change. The food-grains retained a very high proportion in the total. The tendency towards substitution of the better class of food-grains for the inferior ones was marked in the extension of wheat cultivation in the Punjab ; otherwise there were no changes in the food-grains group. But with the increase in the area of cultivation there was also a proportionate increase in the area under industrial crops. The crops under which the increases were the greatest were jute, sugarcane, oil-seeds and cotton. It is to be observed that the spread of the cultivation of industrial crops went largely with the spread of irrigation, and as soon as irrigation in any form was introduced in a tract, the more remunerative crops and intensive cultivation followed. The growth in the different industrial crops was very steady, and its importance consisted in showing the effects of improvement of communications on the agriculture of India. All these crops had been grown for a long time in India in small patches round every village, with the food-grains, for home or for local use. The change that was now coming over India was not so much in an absolute increase in the area under industrial crops. This could not be because India had to grow her own food-supply, and, with increasing population, the area under food-grains had also to rise. But the movement was towards a somewhat greater localization of crops. Thus Berar took increasingly to cotton ; the irrigated tracts of the Nira and the Mutha in the Deccan took up sugarcane cultivation and the cultivation of garden crops almost entirely. Such a movement was only made possible by the facilities of transport, which

opened a wider market for industrial crops, and at the same time made the import of food-grains from the neighbouring districts possible.[1]

A long period of agricultural prosperity in India also meant an incentive to agricultural improvement. Generally this took the form of digging wells and investing in better cattle. This period was naturally well suited to the introduction of better kinds of crops and better methods of cultivation. The practice of agriculture in India differed widely from district to district, from village to village, and even in the same village from one caste of cultivators to another. In the best cultivated tracts—such as those mentioned by Dr Voelcker: Coimbatore, Mahim, North Gujerat—the standard was very high indeed. But even in those tracts where the actual practice was not high, ignorance of the right methods on the part of cultivators could not always be deduced. In most parts the value of fallowing, of the rotation of crops and of manures was well understood; and except, perhaps, for the selection of seeds, there was little to be improved upon in the best cultivation. But the practice of all these depended on the circumstances of the cultivator. Thus the scarcity of firewood compelled people to burn their most valuable manure; the pressure on land made them forego the practice of fallowing, and their poverty, which compelled them to sell the whole crop at harvest-time to pay the money-lender's interest and the Government assessments and consequently to buy their seed every year from the money-lender, prevented any careful seed selection. But the circumstances were not so bad everywhere, and there is no doubt that, side by side with the most developed agricultural methods, were also to be found methods at once slovenly and wasteful.

Thus one of the obvious ways of improving the condition of the agriculturist was an improvement in agricultural methods. It is

[1] In the Central Provinces and Berar we see two indications of this tendency; thus the area under cotton in Berar rose from 27 per cent in 1867 to 45 per cent in 1913 of the total area cropped. On the other hand, the area under sugar, which was in the days before the improvement in the means of transport, 40,000 acres in the Central Provinces, had fallen to 21,000 during non-famine years during the first decade of this century. The latter phenomenon was, no doubt, due to greater localization in tracts specially suited to sugarcane, e.g. the United Provinces and Bengal. See C. E. Low, *Hints on Agricultural Economy of the Central Provinces and Berar* (1914).

necessary, therefore, to consider here the policy of the Indian Government towards the agriculture of the country.

In India the policy of Government has always been an important factor. By 1860 India had been ruled by a foreign Government for a considerable time, and the prestige of Government was such that the people had formed a habit of always looking to Government for the initiative in any measure of reform. This peculiar prestige of Government—especially during the latter half of the nineteenth century—gave it a unique power in influencing the development of India on all sides. This position of Government was greatly enhanced by two factors. One was the illiteracy of the masses. The peasant class of India, though very quick in grasping the profitableness of a new improvement, were naturally not in a position to start any improvements themselves. The other fact was that the upper classes were at this time going through a process of transition, a rearrangement of ideas and modes of thought, which had for the time being left no accredited leaders of society. In short, society all over India was in the melting-pot, and none but Government had influence enough to start any new movement and rely on a considerable following.[1]

It might be objected that industrial changes come only through the pressure of economic facts and have nothing to do with the action of governments. This proposition is certainly in the main true, and ultimately the facts of the economic world have complete power over the nature of industrial changes. But individuals and governments can also influence the course and the rapidity, or otherwise, of these changes. Thus Robert Bakewell and the Norfolk gentry had certainly a substantial share in furthering the cause of agricultural improvement in England, and the nature of the Enclosure Acts influenced the course of agricultural revolution. It is merely pointed out here that, on account of the peculiar social conditions obtaining in India in the latter half of the nineteenth century, there was an absence of an influential social class over wide tracts of the country and a lack of that cohesion and correspondence which are essential to any move-

[1] In matters agricultural this was intensified by the fact that the new educated middle class which got into touch with Western scientific ideas was, in the main, urban, and professional, and had no influence in rural India; while the landed gentry who could influence agriculture were mostly ignorant of scientific methods.

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ment of widespread utility. This state of affairs invests with peculiar importance the policy of the Indian Government.

There have been no definite pronouncements on the policy of Government towards agriculture. But the policy—that is, as far as a definite policy existed—can be inferred from the various official publications. The following words of Dr (afterwards Sir George) Birdwood perhaps bring out most clearly the attitude of the Indian Government towards this question. He says: 'The rapid decay of the manufactures of India invests with the highest importance every attempt to increase the number of its exchangeable products. . . . . Our best efforts, therefore, must be directed to counterbalance the decline in manufactures by a proportionate development of the agricultural wealth of the country; new raw exchangeable products must supply the place of each manufacture as it in succession fails, if the prosperity of India is to be sustained under the circumstances of her dependent and intimate intercourse with Western civilization.'[1]

The question of agricultural improvement had received some attention in the days of the East India Company. But the first regular associations which interested themselves in the question, though started by Europeans, were not Governmental bodies. These were the Agri-Horticultural Societies; the first of these was started by Dr Carey in Calcutta. Others were afterwards formed at Bombay, Madras and other places. These bodies were generally helped by Government by small annual grants or free land for experimental purposes. The first direct Governmental institutions started were the Botanical Gardens. These were run by an expert, and sometimes had experimental farms attached to them. It might be said that, down to 1866, these two were the main institutions for introducing agricultural improvements. The aim of everybody in these earlier years was the introduction of new plants and exotics. Certainly in some directions they were extraordinarily successful. Witness the example of the tea industry. In Watt's opinion, 'the prosperous industry of tea-planting in India and Ceylon may be said to have emanated from the Botanical Gardens of Calcutta, and to have obtained direct aid from the Government until private enterprise was prepared to undertake its further development.'[2]

[1] *Moral and Material Progress of India Report for 1871-72*, p. 27.
[2] G. Watt, *Memorandum on the Resources of British India* (1896), p. 8.

So also the successful introduction of the potato and cinchona may be cited. No doubt a small number of 'useful trees, ornamental shrubs, and valuable crops'[1] were introduced in these years. There were also many attempts to improve the staple crops like cotton and indigo. The attempts at the improvement of cotton were very numerous. But the only fairly successful of these attempts was the introduction of an American variety into Dharwar.

No other definite step was taken by the Government till 1870, when an Imperial Department of Agriculture was created. This was only short-lived and was abolished in 1878, because the co-operation of the provincial Governments was not forthcoming. The whole question was taken up by the Famine Commission of 1880, which recommended as a first step the establishment of Departments of Agriculture and also the collection of agricultural statistics. The extent of the improvement already achieved was also reviewed in the report and by many witnesses. It was recognized by many witnesses that the lines on which agricultural improvement in India had been attempted were in a great measure wrong. Some even went to the extent of questioning the possibility of improving Indian agriculture.[2]

The other attempt made during the decade 1870-80 was in the direction of the establishment of experimental farms, with a view to prove to the people the advantage of improved methods and appliances and also to experiment on new methods, etc. Unfortunately most of the attempts proved fruitless at the time. The main reason was 'the universal employment as farm managers of men who had no true agricultural training, such as gardeners, unsuccessful planters, or other officials with equal claims for consideration.'[3] But it was not only that the people who were generally given charge of these farms were inexperienced, but also, whenever even an agricultural expert was brought over from England, he failed because of his ignorance of Indian conditions and the methods of the Indian cultivator. The effect of this ignorance was disastrous and the failure of the farms was necessarily almost complete. This fact had come to be generally recognized by 1880. Mr Buck (afterwards Sir Edward) said in his

[1] ibid., p. 8.

[2] 'Any further attempt at experimental farming and teaching of the ryots is to be deprecated.' Evidence of Mr Toynbee (Bengal) before the Famine Commission, 1880.

[3] R. Wallace, *India in 1887*.

evidence before the Famine Commission : 'for one thing in which we can beat the native, he can beat us in a hundred things.' The Collector of Ratnagiri wrote : 'The Southern Konkan has nothing to learn from us or America in rice culture.' Mr Buck in his memorandum draws the conclusion that, before introducing any improvement, a patient attention to the study of its application to Indian conditions was necessary. He also emphasizes the desirability of appealing to the verdict of the Indian peasantry. At the same time he points out the absurdity of condemning all attempts at improvement as hopeless. In proving these contentions he puts forward the case of the improved sugar mill of Messrs Mylne and Thompson, which was already coming widely into use. Messrs Mylne and Thompson had to make an elaborate study of the wants and the capacity of the Indian peasant before they put their mill on the market ; but when such a mill had been devised, it was found that, in spite of the alleged conservatism of the Indian peasant, its use spread very quickly. These propositions (of Mr Buck) were on the whole acceptable to the Famine Commission. They recommended the immediate establishment of Agricultural Departments. Nothing was done on these findings. In 1889 Dr Voelcker was appointed to review the whole question. He toured India and brought out his valuable report in 1893 ; yet, by the end of the century, nothing had been attempted. The mere establishment of the Agricultural Departments was no solution to the problem, and the want of experts was everywhere felt. The work of the experimental farms was continued, its value depending entirely on the individual superintendent.

The introduction of some new staples, and, in a few cases, of slightly improved machinery, had been the only achievements of Government in this direction. Government had also tried to improve breeds of cattle and horses by organizing agricultural shows and keeping studs. These attempts had met with no success, because they were desultory and ill-directed.

Apart from spreading the knowledge of better methods and experimenting on new products, etc., there was a very old method of encouraging agricultural improvement which had been practised by all Governments in India. This method was to remedy the defect of credit in the peasant's economy and enable him to make improvements on his land by giving him loans on easy terms for that pur-

pose. These were called the 'takavi' allowances. The British Government in India gave these advances under terms laid down by the Land Improvements Act (1883) and the Agriculturists' Loans Act (1884). These were small loans given by the Government at a reduced rate of interest, to be paid in instalments with the land revenue. The trend of the evidence before the Famine Commission clearly showed that they were not taken advantage of on a wide scale. There were many objections to the way in which the Acts were administered. To begin with, the success of the system depended 'upon the energy and the interest of a single individual, this being as a rule the Collector or the Deputy Commissioner of the district.'[1] Therefore in many cases the knowledge even of the terms of the Act was not current in the district. A great deal also depended on getting the advances in proper time, and this with the 'takavi' loans depended entirely on the character of the official in charge ; it is not surprising, therefore, that the peasant preferred to go to the local money-lender, from whom he was at least sure of getting the money promptly. Another defect in the system of granting these advances was the great rigidity in the administration of the Act in the matter of collection not only of the interest, but also of the capital.[2] The period allowed for the repayment of the loan was in many cases not long enough. Thus though the interest on these loans was much lower than that charged by money-lenders, they were not very successful. In those tracts where an energetic officer administered the Act on a liberal basis and spread the knowledge of the facilities afforded by Government, they generally became very popular and were largely taken advantage of especially for well-digging.

The scope of Government action was, of course, limited. The convincing demonstration of the superiority of a heavy iron plough to a cultivator whose bullocks were half-fed and utterly unfit to drag anything heavier than the ordinary wooden plough was not of much practical value. The same limitation was apparent everywhere in the introduction of manures or of water-pumps. The root causes of the poverty of the peasant, the smallness of his holding, could not be remedied by demonstration farms and improved appliances. But there was another limitation. This was the action of the trade. Dr

[1] Dr Voelcker, *Report on the Improvement of Agriculture in India*, p. 85.
[2] *Report of the Indian Irrigation Commission*, chap. vi. (1904).

Voelcker shows how the action of the wheat trade in London weighed against clean wheat being brought into the market. Even more striking is the instance of the deterioration in the quality of Indian cotton.[1] The limits of Government action are clearly stated by Mr Jones (Berar) in his evidence before the Famine Commission (1880). He says: 'I am not sanguine regarding the effects of model farms. The first cotton merchant who offered a fraction of an anna more for clean than dirty cotton, did more for Wardha cotton than I, with all the resources of the Government at my back, ever accomplished.' Such were the limitations on Government action. Government could do a great deal in the way of improved methods, better seed selection, etc. But for these to spread and be successful, a patient and an exhaustive study of the wants of the peasant and the means at his disposal was necessary.

[1] This movement had gone very far and resulted in a wholesale ousting of superior varieties by inferior ones, e.g. in Khandesh, the Central Provinces and Berar. This was for the most part due to the fact that the inferior varieties matured more quickly and were hardier; while for the trouble and expense of producing the better grade of cotton the cultivator was not likely to be rewarded adequately. The Indian cotton mills industry had adopted the course of producing inferior counts of yarn and coarse manufactures; there was thus no home demand for the finer cottons, and the difference in price was negligible. The tendency was accentuated by the introduction of steam gins. The use of hand-gins even for seed selection had ceased and the cultivator found it easier to buy his seed from the nearest gin. In the gin all sorts and varieties of cottons were mixed up together, 'the specialization of centuries of natural selection was thus being rapidly effaced by this new phase of commercial production'. G. Watt, *Commercial Products of India*, Article on Cotton (1908). See also, *Cotton Improvement in India, Correspondence, etc.* (Parliamentary paper), especially by Memorandum by Mr Mollison.

VI

GROWTH OF INDUSTRY, 1880-95

THE fifteen years from 1880 to 1895 were for the agriculturist on the whole favourable. The handicrafts had continued to decrease during this period, and the only forms of industry that showed any vitality were the factory and the plantation industry. The extent of the former was extremely small and its nature restricted in 1880. The Indian factory industry at this time was almost exclusively composed of the two textile industries, cotton and jute. It may be stated at the outset that during the fifteen years under review no great progress was made in any new industry. A few new industries were started, but none achieved any importance. Whatever progress there was, was made in the already established industries like cotton and jute.

The cotton industry made very good progress during these fifteen years.

Cotton Mills, 1880-95

	1879-80	1884-5	1889-90	1894-5
Number of mills ...	58	81	114	144
Persons employed ...	39,537	61,596	99,224	139,578
Looms ...	13,307	16,455	22,078	34,161
Spindles ...	1,407,830	2,037,055	2,934,637	3,711,669

This table gives some idea of the progress of the industry. The rate of growth was not very rapid but it was remarkably steady and continuous; and there is an entire absence of any violent fluctuations throughout the period.

The rate of growth became specially prominent after 1885. Of the growth during the whole period Mr Graham Clarke writes: 'The year 1885 seems to have marked a turning point in the upward climb, and with the great improvements in cotton mill machinery introduced into India about that time, such as ring-spinning and the revolving

top-flat card, the mills began to make finer yarns and cloth of more variety and to reach out after new markets for their goods. In the five years from 1885 to 1890 there were added fifty mills which marks the time of greatest expansion. There was a fairly good business and healthy expansion up to about 1879.'[1]

Spinning is still a much more prominent factor in the industry than weaving. But it will be observed that, though during the first ten years the number of spindles grew at a greater rate than the looms, during the last five years an exactly opposite tendency was in operation. Now there is a distinct tendency for looms to grow apace. It was only natural that this should be so. For during the young days of the industry competition with Lancashire in coarse yarns was the most profitable and most likely to succeed; and then the spinning shed was the really important section of the factory. Having grown steadily for thirty years, the Bombay industry had now succeeded in practically killing the home hand-spinning industry and had captured the entire Indian market for coarse yarns. But this was not all; the eighties had seen a remarkable rise in the exports of Indian twist and yarn, the exports being chiefly sent to China and Japan. The success of the Indian twist and yarn was so phenomenal that the Manchester Chamber of Commerce conducted in 1887 an inquiry into the causes of the growth of the Bombay trade. They came to the conclusion that the reasons for the success were chiefly 'geographical'.[2] Whatever the reasons, there is no doubt that these exports grew rapidly and continuously during this decade.

	1879-80	1885-6	1890-1
Exports of Indian twist and yarn in lb.	26,704,716	79,324,431	170,518,804

But this growth could not go on indefinitely. The capacity of these markets was not unlimited. Moreover about 1890 a change was coming over the Indian trade with Japan. Japan had been all this time slowly building up a mill industry itself, and so it now ceased

[1] W. A. Graham Clarke, *Cotton Fabrics in British India and the Philippines*, p. 14 (1907).

[2] *Report of the Bombay and Lancashire Spinning Enquiry* (1888).

buying Indian twist and yarn and began to buy Indian raw cotton instead. Therefore, the Indian exports of twist and yarn decreased slightly instead of increasing during the five years after 1890. The Bombay industrialists had, perforce, to turn their attention from spindles to something else. Though the export trade in twist and yarn was checked, the prosperity of the industry was unimpaired.

In the localization of the industry there was very little change. The industry was chiefly centred in the Bombay Presidency and, within the Presidency, in the two cities of Bombay and Ahmedabad. There was quite a large growth of mills in India, but outside Bombay and Ahmedabad they were all scattered over the face of the country and as yet there was no big cotton industry centre outside these two cities. Of the 144 mills in India in 1894-95, 100 were in the Bombay Presidency ; out of these, again, sixty-seven were in Bombay city and island.

The progress in the other textile industry, jute manufacture—was almost as rapid as in the cotton industry. This growth was reflected in the immense increase in the exports of jute manufacture from India. The jute industry was not able to rely on the home market to the same extent as the cotton industry and there was a close relation between the growth of this industry and the progress of the exports of jute manufactures. The progress in the jute industry cannot be said to have been as continuous. Jute, far more than cotton, is a fluctuating crop, and the demand for the products of the industry is perhaps not so stable as the demand for cotton goods. But the jute manufacturers were a highly organized body and the periods of depression or slackening of demand were generally met with by an all-round short time. Another notable fact in connexion with the growth of this industry was that the rise in the number of separate mills or companies was remarkably small as compared with the growth in output or the number of hands employed. A glance at the table regarding the cotton mills would show that the number of hands employed and the number of looms and spindles rose during the period in a nearly equal ratio ; but in the jute industry the case was different. This indicates that the expansion of the industry took the form of the extension or enlargement of the existing concerns rather than an increase in their number. The average unit of production, then, in this industry increased much more than in the cotton industry.

Jute Mills, 1880-95

	1879-80	1884-5	1889-90	1894-5
Number of mills ...	22	24	27	29
Persons employed ...	27,494	51,902	62,739	75,157
No. of looms ...	4,946	6,926	8,204	10,048
No. of spindles ...	70,840	131,740	164,245	201,217

Out of these twenty-nine mills twenty-six (and these all the larger) were in Bengal centred round Calcutta.

Next comes the coal-mining industry. In 1880 it was very small and the wants of Indian railways and manufactures were very inadequately provided for. The progress of this industry up to 1886 is very slow, but after this date the industry began to progress rather rapidly. The growth of this industry depended intimately on the extension of railways in India and on the freights.

Coal-Mining, 1880-95

	1885	1890	1893	1894
Output (tons) ...	1,294,221	2,168,521	2.562,001	2,800,652
No. of persons employed	22,745	32,971	37,679	43,197
No. of collieries ...	68	82		123

The growth was almost remarkable during the year 1893-4. This year indeed was the beginning of the rapid progress in mining activity in India that we find taking place during the next twenty years. Even up to 1893, with all the progress made during this period, the coal-mining industry of India was a very small one. Of the total mineral production of India the gold production from the Kolar mines still exceeded the total production of coal in value.

One of the greatest handicaps to a proper extension of the coal industry of India was the question of freights. The railway charges were high. The Bengal coal-fields, which produced about three

quarters of the total Indian production, were situated far inland; and even the maritime freights were onerous at this time. This made it impossible for the Bengal coal-fields to supply any coal to the west and the south of India. The chief advance made during this period was the capture of the Burma market, and the complete ousting of foreign coal from eastern India. With the extension of the manufacturing industry of Bombay, the imports of coal were steadily rising. On the whole, though the growth was not large, there were clear signs at the end of the period that not only had Indian coal extended greatly in use on the railways, but its use in the manufacturing industry was also becoming more prominent. The exports of coal from India also began during this period. They rose from 26,336 tons in 1890-91 to 53,665 tons in 1894-95; but this was just a beginning, and the actual quantity was insignificant as compared with the more than 800,000 tons annually imported into India. Though the extent of the coal industry was not large in 1895, it then gave promise of rapid future growth.

These three industries—cotton and jute manufacture and the coal industry—still remained the only considerable industries that India possessed. In the financial and commercial statistics of India two other industries—the woollen and the paper mills—are given under separate returns as big industries. But the extent of these industries was very small. For in 1895 there were only six woollen mills and eight paper mills in India, employing in all just about 3,000 and 3,500 people respectively. The general state of Indian industry can be gauged from the fact that these were, after cotton and jute, the biggest factory industries in India.

Of the plantation industries, tea had by now assumed very great importance. It was one which during the last thirty years of the nineteenth century enjoyed a period of continued prosperity and growth. But except for this there was nothing remarkable in its growth during this period. The area under tea, which in 1885 was 284,000 acres, rose to 433,133 acres in 1896. Assam, i.e. the Brahmaputra and the Surma valleys, still occupied the first position with 67.4 per cent of the total area in 1896. Bengal followed (chiefly Darjeeling and Jalpaiguri) with 24.3 per cent. But there was also a growth of the industry elsewhere—on the Himalayan slopes in the North-West Provinces (now the United Provinces) and the

Punjab and in the Nilgiris in the south. The other noticeable feature was that the production of tea was increasing in a greater proportion than the growth in the area under cultivation—a result largely due to better methods of cultivation and increased use of machinery in the manufacturing processes. The condition of labourers in the industry had slightly improved, but the evils of the system of recruiting still remained and the Kumar Dakhineswar Mallia—a member of the Tea and Coal Labour Commission—denounced the system in 1896 as a 'vile pest to society'.[1]

The cultivation of coffee was almost wholly confined to Mysore, Coorg, and the Nilgiri and Malabar districts of the Madras Presidency. Till about 1879 the industry was fairly prosperous, 'but during the ten years from 1879 to 1888, depressed prices combined with the havoc wrought by the borer and the leaf disease greatly discouraged coffee planting in India and Ceylon and the prospect of the industry seemed so forlorn that both in Ceylon and India much coffee land was placed under tea'.[2] The depressed prices were due to the dominant position of Brazil in the coffee market and the greater and greater production of cheap Brazilian coffees. The situation was made worse by the fact that nearly 96 per cent of the Indian coffee was grown for export and there was no home market to fall back upon. But there was a sharp rise in the price of coffee in 1889 which was maintained till 1896. The rise was mainly due to political troubles in Brazil. The industry therefore was revived and enjoyed a period of brief prosperity from 1889 to 1896. The replacement of coffee by tea had been almost complete in Ceylon, but in India the movement had not gone very far and was now definitely checked.

The third plantation industry, i.e. the indigo industry was almost stationary and there is nothing to record in its growth. Mr O'Connor says about the trade in indigo: 'This is one of those long established trades of India like opium and silk which give no indication of progress'.[3] The same might be said about the industry. Yet there was a certain amount of increase, for in 1894-5 the exports of indigo

[1] *Report of the Labour Enquiry Commission on Coal and Tea Industry* (1896). Note by Kumar Dakhineswar Mallia.
[2] *Annual Note on the Cultivation of Coffee* (1896).
[3] O'Connor, *Review of the Trade of India, 1880-89*, p. 36.

this progress in the early nineties, said at the end of his remarks on the 'Present State of Indian Manufactures': 'I have placed before you what appear to me to be good grounds for the hope I entertain, that India has now fairly entered upon the path which, if pursued in the same spirit which has animated its capitalists hitherto, cannot fail to work out its industrial salvation.'[1]

From the growth of the industry one naturally turns to the condition of the labour force in the industry. It has been pointed out above that in the old Indian economic structure there was no place for the casual general labourer. One of the first things that created the demand for this class was the operations of the Public Works Department: and this demand was intensified by the growth of the factory industry in India. It is impossible to generalize about the classes from which this labour was drawn or its living conditions; and the matter must be considered separately for each industry.

In the cotton industry in Bombay city itself the labour supply was chiefly drawn from the Konkan and Deccan districts of the Bombay Presidency. It was largely composed of the landless labour class, which was growing rapidly in India. In Ahmedabad, another centre of the cotton industry, the labour supply was mostly local, i.e. drawn from the surrounding country districts. In the cotton ginning and pressing industry the labour was entirely local—and here the labour was mostly of old women. In the Calcutta jute industry the labour employed up to about 1885 was entirely local, but, henceforward, with the expansion of the industry and the need for more labour, labourers from the North-West Provinces (now the United Provinces) and Orissa had to be imported. The proportion of this foreign labour was a steadily growing one. The Bengal coal-mining industry was also growing rapidly, but the demand for labour till the end of this period was generally satisfied by the supply of the local aboriginal labour. In most other places, wherever there were any industries, labour was local, except in Rangoon, where during the rice-milling season the labour for loading and unloading had to be imported from Madras.

The question of the regulation of the conditions under which labour worked was first broached in 1875 by the appointment of a committee

[1] M. G. Ranade, *Essays on Indian Economics*, p. 118 (1898).

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by the Bombay Government to enquire into 'the condition of the operatives in the Bombay factories and the necessity or otherwise for the passing of a Factory Act'. This committee was divided on the question of the necessity for passing a Factory Act. The manufacturing interests and a large proportion of the public in India were generally opposed to any measure of this sort. After numerous bills had been drafted the first Act was finally passed in 1881. This Act was of a very elementary character. It only provided for the regulation of the working hours of children below twelve years of age. Children below seven were not allowed to work in the factories and the working hours of children between seven and twelve were fixed at nine. There was some provision for the fencing of machinery, but an entire lack of any sanitary provisions. The Act was meant to apply only to factories employing 100 or more hands and using 'mechanical power'. From the scope of the Act the tea, coffee and indigo establishments were excluded.

It was soon found that the provisions of this Act were entirely insufficient to safeguard adequately the interests of the operatives. Another committee was appointed by the Bombay Government, but no general modifications on the lines recommended by the committee were adopted. Lancashire and Dundee were all this time complaining about the unfair competition of India on account of the lack of a Factory Act.[1] The opinion in India itself—especially in the Bombay Presidency—in favour of further legislation on the matter was also growing. At last the Indian Government appointed a Factory Commission in 1890. An Act, largely based on the recommendations of this Commission, was passed in 1891. The advance over the former Act was that the Act now embraced all factories employing fifty hands, provided for a weekly holiday, fixed the minimum limit of the age of children employed at nine, and fixed the working hours of children between nine and fourteen at a maximum of seven. It also fixed the working day for women at eleven hours and prohibited night work for them (a provision which was largely vitiated by the exception made in the case of a shift system approved by the Local Inspector of Factories). It also made some provisions as regards sanitation and the inspection of factories.

[1] *Annual Report of H. M. Inspector of Factories* (1895). Note on Factory Legislation in India.

But whatever legislation there was, it was very restricted in the scope of its application. The real restriction which robbed the Act of its value before 1891 was the application of the Act only to factories employing 100 or more hands. For it was the small factory in which the worst abuses existed. Another restriction was that the Act applied only to factories working more than four months in a year. On account of this provision a large proportion of the concerns engaged in seasonal industries, e.g., ginning and pressing of cotton and rice-milling, escaped from the operation of this Act.

On the other hand there was no legislation at all on behalf of the labour force in the mining industry. Women were extensively employed in all mines—especially in Bengal—and it was feared that any 'legislative interference would tend to hamper the development of the industry which was yet in its early stage.'[1] So far, then, as the regulation of the working conditions on the part of Government went, a great part of the modern industry in India was outside its scope; and it was only after 1891 that factory legislation can be said to have become fairly effective.

The really important thing is not so much the nature of the Acts passed as the light that the enquiries throw on the working conditions of the factory labour in India. It was only in Bombay and Bengal that there was a factory industry of any extent. The reports from all the other provinces generally insist on the fact that the industry is so small that no separate legislation is required for it.[2] But even though there was a uniform lack of regulation, the conditions differed widely from place to place.

The hours worked in the Bombay mills were, for males over eighteen, twelve and a half hours: for females over eighteen, eleven and a half hours; for young persons, i.e. from fourteen to eighteen, they were the same as those for adult males, and for children from seven to twelve they were nine.[3] These were the normal hours in the big mills, but they were exceeded in cases of pressure of work. Until

[1] *Employment of Women and Children in Mines, Correspondence, etc.* [Parliament Paper] (1893).

[2] *Reports of the Working of the Indian Factory Acts* (1889). (Parliamentary Paper).

[3] Hours worked in 1889. The hours of children were regulated by law. Figures taken from a table from the Bombay report in the above Parliamentary Paper.

the introduction of electric light into the mills there was a natural check on these hours—the maximum possible being fourteen in summer months. Before 1881 the children worked the same hours as adult males but the Act of 1881 lowered them to nine. The regulations, however, were not always enforced; and evasion was frequent. For example, the Central Provinces report (1889) on the working of the Factory Act states that in the Jabalpur mill both adults and children worked from sunrise to sunset—the only difference between their hours being that the adults had only half an hour's rest at midday while the children rested for an hour. As regards the working hours of women they were a little shorter in the Bombay industry than those of men, but in the up-country mills the hours were generally the same. Though the men did not complain much about these hours they at least wanted a weekly holiday. In the Bombay industry the workers got only five complete days during the whole year;[1] and even in mills where a regular weekly holiday was given the labourers were supposed to attend, for at least half the day, for the purpose of cleaning the machinery, etc. The real abuses, however, did not exist so much in the spinning and weaving mills as in the cotton ginning and pressing industry. Here the Khandesh industry was the worst. The evidence before 1884 Factory Commission was of a terrible nature. One witness stated: 'In the busy season—that is in March and April—the gins and presses sometimes work both night and day and the same set of hands work both night and day, with half an hour's rest in the evening. The same set continue working day and night for about eight days'.[2] It was all the worse because the hands were mostly women. Another witness stated: 'The women are looked on as part of the gins, and they belong to the establishment, and two or three hours is the longest time they can be absent out of twenty-three without any notice being taken of it.'[3] After working eight days without stopping, 'they (the gins) are compelled to get another set of hands from Bombay'.[4] All the other evidence on the Khandesh gin industry was of the same nature.

[1] *Annual Report of H. M. Inspector of Factories* (1886-7). Note by Mr Jones on 'Factory Conditions in India'. See also evidence of Mr Cocker before the *Bombay and Lancashire Spinning Enquiry* (1887).
[2] *Report of the Bombay Commission*, p. 11 (1885).
[3] ibid., p. 13.
[4] ibid.

As in the matter of working hours, so also in the matter of sanitation and ventilation the smaller concerns were the worst. In the bigger ones, which mostly came under the working of the Act, the sanitation, the ventilation and the fencing of machinery were fairly satisfactory. But apart from the big industry, the conditions were not so good. The worst offenders in this respect were the cotton and the wool cleaning establishments in Bombay. Of one of these Col Meade King remarks : 'I considered this place (in the absence of proper means of ventilation) utterly unfit for human beings to work in.'[1] On the small mills and factories he further remarks : 'In two-thirds of the works visited I have observed dangerous—in some cases *most* dangerous—machinery, mill gearing, fly wheels, etc., without any fencing whatever about them, and the marvel is that accidents are not of more frequent occurrence than they are.'[2] But he adds : 'I am disposed to think that the want of ventilation and the proper means of carrying off injurious dust and gases is of even more vital importance than the fencing of machinery.'[3] The abuses, then, that existed in the Bombay Presidency were chiefly in the small non-regulated industry ; and here the conditions were truly terrible.

Perhaps the most vehement opposition to factory legislation of any nature came from the Bengal Chamber of Commerce and the then Governor of Bengal (Sir Ashley Eden) stoutly opposed the bill in the Viceroy's Council. Whatever might be said of this attitude, it must be admitted that the conditions of work were perhaps the best in Bengal—especially in the Calcutta jute mills industry. The regular hours for running the mills were the same in the Calcutta mills as in the Bombay industry—sunrise to sunset. But the mills in Calcutta were worked on a somewhat complicated shift system and the work-people were individually employed on an average for about nine hours a day rising sometimes to ten. The exception to this rule were the weavers, who generally worked the whole day.

The Bengal workers also got a full Sunday holiday every week, and this no doubt counted very greatly in favour of the health of the working classes. The internal condition of the factories is described

[1] Letter of Col Meade King (Inspector of Factories) to the Bombay Government, July 1882.
[2] ibid.
[3] ibid.

as generally well-ventilated and clean and the fencing of the machinery as effective.[1] There was another matter also in which the Bengal labourer was better off than his brother in Bombay. This was in the system of payment of wages. In Calcutta these payments were made weekly and, at the most, from about three days' to a week's wages were kept in hand. But in Bombay the pernicious system of monthly payment of wages prevailed and nearly three weeks' wages were kept in hand.[2] In this matter Bombay City was the worst, for even in Ahmedabad payment was weekly.

There were during this period no enquiries into the condition of Bengal labour like the two Bombay Commissions. It is, therefore, not easy to know what were the exact conditions obtaining in the jute-pressing and the other up-country industries. They must have been a little worse than in the big industry but it cannot be said whether they were as bad as in the Khandesh gins. This, however, does not seem likely, as the local supply of easily exploitable labour in Bengal was much less than in the extremely poor province of the Bombay Deccan. Of the other stray factories and small industries much need not be said. The working conditions here depended very greatly on the individual manager or proprietor and the general condition of agricultural labourers in the surrounding district. Generally speaking, the hours and the conditions were more or less the same as in the Bombay cotton industry, in places perhaps a little worse.

Lastly, in the coal-mines there were no regulations whatever. Women and children were employed extensively under-ground in Bengal. In the Central Provinces, where the labour was mostly immigrant labour from the North-West Provinces, very few women were so employed, and the opinion here was in favour of entirely prohibiting such employment of women. But in Bengal any suggestion of such interference was hotly contested. Here the 'family' system of working prevailed. The workers were mostly drawn from the local tribes of Sonthals and Bauris ; they worked with their

[1] Report of the Magistrate of 24 Parganas. See *Reports of the Working of Factory Acts* (1889).

[2] This system persists today and has been largely held responsible for the indebtedness among the Bombay factory hands. See *Indian Co-operative Studies*, Essay No. iv. 'Co-operation among Factory-workers', by Messrs Devdhar and Joshi (1920).

women-folk, the man cutting the coal and the woman carrying it. As yet very few attempts had been made to get the immigrant labour from the North-West Provinces, but the rapid expansion of the industry was now making the want of a steady supply of extra labour severely felt.[1].

Agricultural Statistics of British India

	Thousand Acres				
	1894-5	1901-2	1906-7	1912-3	1913-4
Fallow land ...	30,183	42,147	39,935	48,760	52,620
Net area cropped ...	196,601	199,708	214,226	224,166	219,192
Irrigated area ..	23,825	32,582	36,654	45,539	46,836
Rice ...	69,280	70,067	73,541	78,752	76,908
Wheat ...	22,761	18,607	25,137	23,861	22,685
Jawar ...	20,863	21,819	20,781	20,968	21,405
Bajra ...	11,337	13,197	15,034	16,269	15,385
Total food-grains ...	181,576	176,999	195,117	201,373	191,573
Sugar	2,889	2,596	2,624	2,712	2,708
Oil-seeds	13,930	11,965	13,965	14,936	14,658
Cotton	9,717	10,299	13,771	14,138	15,844
Jute	2,275	2,278	3,523	3,324	3,136
Fodder crops ...	1,931	2,944	4,548	5,770	5,910
Indigo	1,705	792	449	227	169
Tea	414	495	505	558	572

[1] *Report of the Labour Enquiry Commission, Bengal* (1896).

VII

THE AGRICULTURIST, 1895-1914

THE long period of fifteen years of comparative immunity from famines came suddenly to an end in 1895, and the periodical visitations of famines fell with extraordinary force on India during the years that followed. Two severe famines followed each other swiftly and made the closing years of the nineteenth century one of the worst periods in the history of Indian agriculture.

The famine of 1896-7 spread almost all over India. The only parts that were not affected by the drought were Lower Burma and the extreme south of the peninsula.[1] The Famine Commissioners had remarked in 1880 that the famine of 1876-8 was the severest in the country, but the famine of 1896-7 was spread over a wider tract and was quite as severe. The remarkable feature about this famine was that it visited parts which had hitherto been thought to be immune from famines. Thus it found Berar, which had been free from famines for sixty-four years and thus lulled into security, without any preparations to combat the evil.[2] The number supported on relief works was again very considerable; but the actual conduct of the works was better and much more efficient this time than it had been in the previous large famine (1876-8). This time the officers in charge had the benefit of the guidance of the findings of the 1880 Commission. These were found to work, on the whole, very well in this famine, and the Commission of 1898 recommended only some minor alterations—chiefly in the direction of a more liberal treatment of those on relief—in them. Naturally the relief administered was not on the same basis everywhere and the Commission found the conduct of certain Provincial Governments—especially the Bombay Government—in the matter of granting relief and the remission of assessments, etc., niggardly.[3]

[1] T. W. Holderness, *Narrative of the Famine of 1896-7* (Parliamentary Paper).
[2] The same was the case with Gujerat in the famine of 1899-1900. This tract had been free from famines since 1812.
[3] *Report of the Indian Famine Commission*, chaps. iv and v (1898).

But by far the most interesting part of the report of these Commissioners is their estimate of the condition of the agricultural classes in 1895 and also how far they had progressed during the fairly prosperous period, 1880-95. They find that in India as a whole there had been a considerable increase in the income of the land-holding and cultivating classes on account of the rise in prices. 'Their standard of comfort and expenditure has risen,' so their powers of resistance against famines had risen ; but, the Commissioners remark, 'whether it can be safely said that they have much improved in thrift, that is, in the accumulation of capital, is open to doubt.' But, though the general powers of resistance against famines had risen, one of the most important safeguards in old times against such calamities had fallen into disuse. 'The export trade and the improvement of communications have tended to diminish the custom of storing grain which used to be so general among the agricultural classes.' If the landholding and cultivating classes had, in their opinion, undoubtedly profited from the rise in the prices of food-grains, this was far from being the case with agricultural day labourers—a class which was a rapidly increasing one. Of this, together with the lower strata of the artisan classes, the Commissioners say : 'The wages of these people have not risen during the last twenty years in due proportion to the rise in price of their necessaries of life'; further on : 'This section of the community lives a hand to mouth existence with a low standard of comfort and abnormally sensitive to inferior harvests and calamities of season.' 'The experience of the recent famine fails to suggest that this section of the community has shown any larger command of resources'—and about the extent of this class, 'far from contracting it seems to be gradually widening, especially in the more congested districts.' These conclusions are strengthened when they show the condition of the different classes in India province by province. In Bengal the resisting power of the people had generally risen since 1873-4, but as regards the petty agriculturists and the labouring classes in Bihar, they did not seem to have profited by the rise in the prices of food-grains. The Deccan districts of Madras—which was one of the tracts most liable to droughts—had been gradually improving their condition before 1876. But the famine of 1876 had hit them very hard and left them much impoverished ; the progress they had been able to make since then had been very slow, and on the

whole there did not appear to be any general improvement nor a general decline. As regards the Bombay Presidency the Provincial Government held the view that the last famine showed a remarkable increase in the powers of resistance of the cultivators of the Deccan and the southern Maratha country. About this the Commissioners write: 'We are not really capable of criticizing this opinion, but it seems to us to be rather too sanguine a view of the situation.' The North-West Provinces Government also drew the conclusion that the cultivating classes, both tenants and proprietors, had greatly improved their position, but that the labouring classes had not shared in the general prosperity. The Famine Commissioners qualified this statement as regards the small proprietors and cultivators south of the Jumna, generally. In this tract they failed to find any signs of improvement. In the Central Provinces the Government thought that the cultivators had very much strengthened their position; but here again the Commissioners differ. They say: 'There is evidence that many of the old malguzars and old tenants have fallen hopelessly into debt, while others are just able to maintain their position in years of ordinary prosperity. The labouring classes, we believe, live in tolerable comfort in ordinary years but they save nothing for bad years and there are no signs of increased resistance on their part.' In the Punjab the conditions were slightly better. Here a greater part of the province was protected by irrigation than was formerly the case and the cultivators were fairly well off, but in congested districts there was a great deal of subdivision and indebtedness among the small owners. 'The labouring classes in this province are fairly well off and frequently able to save from their earnings.'[1]

The conclusions of this Famine Commission have been given rather in detail, mainly because they are, perhaps, the most authoritative on the question of the prosperity of the people, and also because they help to show the entire dependence of the large majority of the Indian populace on the nature of the seasons. The famine of 1896-7 was a great shock to the agricultural classes of India. But this was not all. Hardly had the people begun to recover from the famine when another season entirely failed over a large part of India. The

[1] For the above account see *Report of the Famine Commission*, chaps. i, ii and iii (1898).

famine of 1899-1900 was not so widespread but certainly was very severe. During these years Bengal and Burma had good rice crops and the distress was not acute in the North-West Provinces, Oudh and the Punjab ; in the south of India the Madras Presidency suffered a great deal, but the most distressed parts were the Bombay Presidency, the Central Provinces and Berar, a major portion of the Nizam's Dominions and a great portion of Central India.[1] And wherever there was distress the form of it was acuter than ever, especially in those tracts of the south where the famine of 1896-7 had also fallen very heavily. This will be seen from the fact that though the famine of 1899-1900 did not cover so wide a tract as the two earlier famines (1896-7 and 1876-8) the numbers of people who resorted to famine works this time far exceeded those of any previous famine ; and the cost of administering the relief came to about fifteen crores of rupees. No doubt, a part of this might be and was attributed to a liberal granting of relief and laxity of tests. This was shown by the fact that the percentage of people relieved differed from district to district, though the acuteness of distress might be the same in all. Thus in the Betul district of the Central Provinces as many as forty per cent of the population were relieved, while the percentage in the adjoining districts was much smaller. There was also the fact that at the end of this famine the people did not leave the relief works as readily as they did in other famines. This can be attributed to the very high wage that they were earning on the relief works, but it might also be due to the fact that, having suffered from two famines in quick succession, the people were not quite as confident as before that a good season had really set in. This second famine was specially notable for the very high mortality amongst cattle. It has been remarked above that this is one of the main features of an Indian famine.[2] The dearth of fodder crops was remarkable in 1899-1900 and the mortality among the cattle in Gujerat was terrible. This was

[1] *Paper Relating to the Famine and Relief Operations in India, 1899-1900,* Nos 80 and 81. (Parliamentary Papers).

[2] 'After all a fodder famine is the worst calamity that can befall the people ; it does not necessarily come whenever there is a food famine, because it may happen as in 1896 that the kharif crops grow large enough to give a supply of fodder, though yielding little or no grain.' W. H. Moreland, *Agriculture of the United Provinces*, p. 122 (1921). 'The emergency cannot be met by the individual cultivator to any great extent.' (ibid., p. 123).

all the more unfortunate, because the Gujerat breeds were amongst the best and most improved in India, and the very careful cultivation of the Gujerat peasants depended on the high quality of their cattle. Government took special measures to cope with this fodder famine; some forests were thrown open; in other cases Government took measures to cut down grass in the forests, bale and press it, and then sell it to the people. The Central Provinces supplied a good deal of fodder to Gujerat, but the insufficiency of rolling-stock on the railways prevented the supplies from being utilized to their full extent.[1]

These two famines were truly very great calamities. Their effects were manifold, weakening the health of the people and undermining their *morale.* They made the masses easy victims to epidemics of cholera and plague; but, as pointed out in a previous chapter, their worst effect was in putting back the clock of agricultural progress. Almost all the progress that had been made from 1880 to 1895 was lost over wide tracts of India during these disastrous five years. Two of the most immediate effects of these famines in the domain of agriculture were (*a*) the decline in the double cropped area, (*b*) the displacement of the industrial crops and the export crops by food-grains. For example, in the Central Provinces, except for a growth in the area under cotton, there was a general retrogression in the area under all crops, and on account of a rapid succession of bad harvests the practice of double cropping had practically disappeared.[2] In the United Provinces, where the famine of 1899-1900 had not been felt, the area under double crops had risen, but this rise was very slow as a result of the earlier famine. The famines had also the result of decreasing the total area under cultivation; this was the case in the United Provinces and also in the Bombay Presidency, but the result in this matter was not quite so marked in the Central Provinces. The second result was the substitution of food-crops for the export or industrial crops, or even the substitution of inferior food-crops in place of the more remunerative ones—especially because (as was generally the case) these inferior crops were also the hardier ones. For example, in the United Provinces indigo and oil-seeds were to a

[1] See *Papers Relating to Famine, 1899-1900,* Nos. 82-90.
[2] *Report on the Moral and Material Progress of India, 1891-2,* and *1901-2.* Section on Agriculture.

very large extent replaced by food-grains ; in the Bombay Presidency this same tendency was very much marked, and in the Central Provinces wheat, grain, linseed and rice had all been replaced to a large extent by the less remunerative millet crops. It may be remarked here that this latter effect was perhaps not very lasting. In a few years' time after the famine, with the advent of good seasons, the balance between the different crops was regained. The same cannot be said of the area which goes out of cultivation or the decrease in the area double cropped. But the really harmful effect of the danger of famines is that they prevent the cultivator from adopting a more remunerative but a more delicate crop, and also discourage him from investing too much in the land in the way of manures, etc., except where the land is irrigated and thus protected from the variability of the seasons.

The fourteen years from the beginning of the twentieth century to the outbreak of the war were fortunately free from any such complete failure of harvests as the two in the last decade of the nineteenth century. But neither were the seasons very propitious. The opening years of the new century did not bring very good harvests. In Bengal and Bihar nearly all the first seven seasons were unfavourable and in Madras Presidency the whole of the first decade saw seasons which were below the normal. There were also individual years which brought drought in certain provinces, such as the year 1902-3 in the Central Provinces, and the year 1905-6 in the United Provinces and the Punjab. But the worst year of this decade was 1907-8. The distress that year was very general throughout the United Provinces and large relief works had to be opened. The season was also very bad in the provinces of the Punjab, Bengal, Central Provinces, Bombay and Upper Burma ; and relief on a small scale had to be granted throughout almost all these provinces. But the seasons after 1909 were on the whole favourable, and in 1914 India may be said to have been in a period of mild agricultural prosperity ; and as to the general condition of the landholding and cultivating classes of India, it might be said safely that they finished the period a little better off than where they began at the beginning of the century. For though the cultivators had gained in material wealth during 1880-1895, they were the hardest hit on account of famine. (The agricultural labourers are, of course, excluded from this, for though they gained no ground during the period of prosperity, they were precisely the

class who suffered most in the time of famines.) A great deal of the ground gained by the cultivating classes during the fifteen years previously was lost by them during the closing years of the nineteenth century. After the second famine they began at a low level ; but the circumstances in most parts of the country favoured a more or less rapid recovery. The rise in the price of food-grains, which became particularly marked during the first decade of the twentieth century helped the land-owning classes a great deal. The spread of communications and of improved methods of cultivation, however slow, placed the actual cultivator in a more favourable position.

It is interesting, at this point, to see what changes in the area under cultivation and the crops had taken place during the period.[1] The five years from 1895 to 1900 have to be left out of account because they were entirely abnormal and the fluctuations in famine times cannot give any idea of the general tendencies. Though the total area varied a great deal from year to year on account of the nature of the seasons, there had been, on the whole, a very real growth in the total area under cultivation. An important cause of this growth was the extension of irrigation—especially in the Punjab, where the canal colonies were created during this period. But this also indicated a real growth in the number of lands on the margin of cultivation being brought under the plough.

With this extension in the area under cultivation the first query is what percentage of this total is occupied by food-grains? In 1901-2 the percentage was about 88 and in 1913-14 it remained much the same. The steadiness in the percentage of the area under food-grains, though the total area under cultivation increased, is a remarkable fact ; and, indeed, the agricultural statistics of this period show this same steadiness of proportions everywhere. With a few exceptions like gram or fodder crops there is no remarkable rise in the areas of crops. The rise is in most cases proportionate to the rise in the total area under cultivation. Rice retained its position as the most widely cultivated of all. The only important change in proportions was that the area under wheat had risen a great deal ; but here it must be remembered that the area under wheat was liable to somewhat wide fluctuations. This rise in the area under food-grains was necessitated

[1] See table at the beginning of the chapter.

—as in a previous period—by the increase in the population. India is not a food-exporting country to any great extent. Rice and wheat are the only important food-grains to be exported. The large crops of pulses and the minor food-grains like the millets are, almost wholly, retained in the country for home consumption. In rice even, India must be considered apart from Burma. The rice exports of India consist mainly of Burma rice; and the tendency was marked during this period for Burma rice to take a larger and larger proportion of the rice exports of India; in fact Bengal itself had begun regularly to take in rice supplies from Burma. As regards wheat, which was the largest crop of India proper to be exported, only about 10 per cent of the total crop grown was exported in normal years.[1] Even in wheat the exports fluctuated enormously and even a slight scarcity in India was enough to curtail the exports of the crop. As a matter of fact, the exports of food-grains in fair years did not show that India was a food-exporting country. These exports are rather to be considered as a reserve against famines; only instead of being stored, as of old, these surplus crops of favourable years were exported; and the slightly extra area under food-crops, beyond what would be necessary to meet the home demands in average years, was a guarantee against the variability of seasons. The same fact is emphasized by statistics, which show that the increase did not take place only in the areas under rice and wheat but also in jwar, bajra and other inferior food-grains which were not exported out of the country. That is why it can be asserted safely that the increase in the area under food-grains was necessitated by the increase in the population. The bulk of the new area brought under cultivation was, then, taken by the food-crops; and the bulk of the peasantry was still engaged primarily in the production of food supply for the home and the local market.

Among the industrial crops the areas occupied by oil-seeds and cotton were the most important. The oil-seeds area had grown steadily during these fifteen years and their percentage of the total had slightly increased since 1901-2. Naturally, there were somewhat wide fluctuations from year to year among the individual constituents of this group. But the three main crops—linseed, sesamum, and rape

[1] F. Noel Paton, *Indian Wheat and Grain Elevators* (1913).

and mustard—had maintained their position. Of the others, ground-nut had recovered from its decline towards the end of the nineteenth century and the introduction of new varieties had helped it to improve its position. Oil-seeds were largely an export crop; especially was this so with some constituents of this group like linseed and ground-nut.

The area under cotton had also increased steadily. Cotton, of course, could not be grown all over India and this increase in area, which was large, was chiefly due to the increase in the proportion of land occupied by cotton in the cotton tracts. Jute was even more largely restricted to a particular area, viz. Bengal, than cotton. But the proportionate increase in the area under this crop had been even greater. Many attempts had been made to introduce the cultivation of jute in other tracts but most of them had failed; and jute continued to spread in the restricted area of Bengal. The areas under the other important industrial crops, such as opium and indigo, definitely declined. In the former case this was due to the agreement of the Government of India with the Chinese Government, and in the latter to the competition of synthetic indigo. Fodder crops had grown remarkably in popularity. The cultivators had come to realize that these crops were very necessary for the proper feeding of their cattle. They had also been found to be very remunerative, and very useful as rotation crops. The area under sugarcane was almost stationary and in some places slightly declining. The area under this crop declined by nearly 20 per cent during the years 1890-1910,[1] but towards the end of this period it was recovering slightly. All the statistics, indeed, show prominently the fact that the character of Indian agriculture as regards the crops grown had changed but slightly during these fifteen years. The food-crops grown chiefly for local consumption continued to occupy the premier place; and even in the industrial crops, the increases in the area under cultivation took place mainly in the already well established crops such as cotton, jute and the oil-seeds, while the decreases under indigo, opium and sugarcane were due to peculiar causes connected with their individual industries.

The statistics of yield are unfortunately lacking, and the figures

[1] F. Noel Paton, op. cit.

given for live-stock, ploughs, carts, etc., are only estimates and, therefore, entirely unreliable for a comparison over a number of years. We are thus thrown back again on a consideration of the work of Governmental agencies for an estimation of the extent of improvements in the methods of cultivation. Such an improvement must always play a large part in the agricultural economy of any country. The Government departments continued to be the chief agency for disseminating this kind of information. They were the most suitable; for the cultivator, when he saw that the officials themselves were interested in a certain innovation, was prepared to try it even though he was always sceptical about its results. Though a certain amount of agricultural progress had been achieved in the nineteenth century by a number of Government agencies in the way of introducing exotics and certain other improvements there had been, then, no concentrated and organized effort in this direction. The Agricultural Departments had been, no doubt, in existence in the provinces for a number of years, but their lack of concert and—a very important thing—the want of permanent experts had prevented them effectively from doing any solid work. The first step in bringing together these scattered forces was taken under the administration of Lord Curzon. The most important step was the appointment of an Inspector-General of Agriculture for all India in 1901. This gave the various Agricultural Departments, for the first time, a head who was also an expert in agricultural matters. This step was followed by an establishment of an Agricultural Research Institute, a few provincial agricultural colleges, and a few schools. That Government had realized the necessity of doing something towards this object—not merely in a haphazard manner—was shown by an increasing expenditure on the Agricultural Department. The period of one decade was too short, the staff of the Departments as yet too small and too scattered, and the expenditure on this all important matter too niggardly, to show any very definite results before the end of this period.

The improvement of cotton has always been one of the favourite subjects of all agriculturists in India. In this matter a few exotics were introduced and various experiments on indigenous varieties carried out—especially in the Madras Presidency. One of the greatest obstacles to any improvement in the quality of cotton had always been

the difficulty of the cultivator in getting pure seed;[1] and the very common practice of resorting to the local gin for the seed-supply has acted very unfortunately in this direction. An attempt was made to combat the evil, to some extent, by the establishment of seed farms which were used for the dual purpose of the selective breeding of varieties and the distribution of improved seed. But above all the impetus towards an improvement in the quality of cotton came by the creation of a market for cottons of a higher quality. This was the result of certain causes which had compelled the Indian mill industry to turn its attention towards the production of goods of a finer quality than they had been used to produce hitherto. The market for these finer cottons was as yet very small, but it was an expanding one, and in it lay the real hope for the improvement in the quality of cotton.

Wheat as an export crop had been increasing in importance and attention was, naturally, directed towards making the wheat grown for export suit the requirements of its foreign market. One of the most important branches of research work carried out in India was an investigation into the different varieties of wheat grown in the country and determining the localities to which these different varieties were best suited. The question of preventing rust and destruction by insects during storage also came up and many advocates were found for the introduction of the grain elevator system in India. But the practicability of this step was questioned and the issue is still in doubt.[2]

These are a few examples. The problems calling for attention were very varied. They concerned almost all the staples of India. The introduction of new varieties of rice was tried with success in some parts; improved and early growing varieties of ground-nut suitable to the foreign market were introduced into cultivation. In the latter matter the experiment most successful was the introduction of ground-nut cultivation into Upper Burma. Apart from improvements in the crops, experiments were made in improved implements and artificial manures. Something had been gained from the nume-

[1] *Vide* the instructive hisory of the rapid spread of Cambodia cotton and the deterioration in its quality. J. Mackenna, *Agriculture in India* (1915), also *Report of the Indian Cotton Committee*, chap. xvi (1919).

[2] A. and G. L. C. Howard, *Wheat in India* (1909). See also F. Noel Paton, *Wheat*, etc. and *Report of the Royal Commission on Agriculture in India*, p. 404 *et seq.*, (1928).

rous failures of the last century, and more attention was now paid to the requirements of the cultivator and his financial capacity. Light iron ploughs and small pumps for water lifting were taken up in many parts. One of the instances of these varied activities was the establishment of a Fisheries Department in Madras under Sir Frederick Nicholson. This introduced, especially, along the Malabar Coast, improved big nets—worked on a co-operative system—also improved methods of fish curing and the establishment of sardine oil and guano manufacturing establishments.[1]

But after all, the improvements effected were of no revolutionary nature. They were limited in their scope and did not always reach the class of peasant proprietors. The work left is enormous, but whatever little was done helped, no doubt, to improve the position of the agriculturist. One of the main reasons for the greater success attending the efforts of Government in the introduction of improvements was that the co-operation of the local landholding classes was invited and was obtained in this cause. In many cases this proved the most useful agency, and in the Central Provinces and in some parts of the Bombay Presidency local communities of landowners were formed which worked in conjunction with the Agricultural Departments.[2]

The poverty of the peasant has been perhaps the most formidable obstacle to the introduction of agricultural improvement in India. His chronic indebtedness is the most important factor contributing towards this poverty. Credit plays, perhaps, as important a part in the agricultural economy of India as water. The fact is patent that until recently no attempts whatever had been made to organize rural credit in India. Mr Justice Ranade emphasized, rightly, this want of organized credit is the greatest handicap to the agriculturist and to rural industry.[3] There was very little hope, indeed, of any progressive improvement in Indian agriculture if the exorbitant rates charged by the local money-lender had to be paid by the cultivator on every bit of capital that he put into his land. This fact had been long realized and

[1] See evidence of Sir Frederick Nicholson and Mr Govindan: *Indian Industrial Commission*, Minutes of Evidence, vol. III (1916-8).

[2] *Reports on the Introduction of Improvements in Indian Agriculture by the Work of the Agricultural Departments*, 1909, 1910, 1912 and 1914. For Agricultural Associations see the 1912 *Report*, pp. 11-15.

[3] Ranade, *Essay on Reorganization of Rural Credit in India*, op. cit.

the 'sowcar' had been the *bete noire* of all writers on Indian economic conditions. But after all the money-lender had been fulfilling a very important function in the carrying on of agricultural operations in India and it was no use ousting him or abusing him if there was nothing better to take his place. The fact that the money-lender and his exactions are not an element peculiar to Indian agriculture has been already emphasized by many writers. And as Sir F. Nicholson put it, 'the substitution of organized credit for that of the money-lender is a necessary development of civilization. It is *not* merely cheap and facile credit that is required.'[1] Attention was early directed to the land banks and the co-operative credit societies of Europe which had been chiefly instrumental there in ousting the local money-lender. The first important step in this direction was taken when the Madras Government appointed Mr (afterwards Sir Frederick) Nicholson to investigate the problem. His report was very thorough but no immediate action was taken on it. In the meantime individual officers in certain districts had been taking an interest in the matter. Mr Dupernex of the North-West Provinces[2] had started certain experimental village banks in that province. At about the same time similar societies had been started in the Multan district of the Punjab by Mr Maclagan and Captain Crossthwaite.[3] There was no lack of interest shown by the local agriculturists in these societies and Government was induced to appoint a small committee to enquire into the establishments of co-operative credit societies in India. This committee in its report laid down the general lines on which, in its opinion, these societies should be constituted in India. The first Co-operative Societies Act was passed in 1904 and the first step of Government was the appointment of Provincial Registrars for each province to further the work of co-operation. Unfortunately, the first Act was very limited in its scope. It restricted the function of these societies to supplying funds to their members and a good many of its provisions as interpreted by the courts became a hindrance to

[1] *Report on the Possibility of Introducing Land Banks,* etc., *in Madras Presidency,* vol. i, p. 42.

[2] The name was changed to that of the United Provinces of Agra and Oudh in 1900. As far as possible the names have been used having regard to the period in which mention has been made of them.

[3] *Report of the Committee on the Establishment of Co-operative Credit Societies in India* (1901). Evidence of Mr Maclagan, etc.

the further spread of the movement.[1] The Act was therefore superseded by a new one passed in 1912 which removed those old restrictions. Quite a number of supply and sale societies immediately came into existence. These supply and sale societies were also greatly instrumental in the spread of agricultural improvements in India. It will be clear that the movement was hardly a decade old in 1914. Considering the short period the progress made in the movement was quite satisfactory. In 1913-14 the position was :—

Number of societies	No. of members	Loans issued to members and other societies
14,881	6,95,998	Rs 5,04,17,310

Almost all these societies were agricultural societies and also mostly credit societies.

[1] H. W. Wolff, *Co-operation in India*, chaps. ii and iii.

VIII

INDUSTRIAL PROGRESS, 1895-1914

THE industries which had been progressing in 1895 suffered a considerable check during the years 1895-1900. Industries in India, especially those which depend for their market on the demand in the country itself, are bound to suffer with a collapse of agriculture. Such a sympathetic collapse of industries was a prominent feature of the old Indian economic structure, and even in modern India the artisan industries are in the same condition as they were in the old days. Of the bigger industries coal was the least affected by agricultural distress in India and jute also not very greatly.[1] The cotton industry on the other hand was in a different position. Its market for woven goods was chiefly Indian and also a large portion of the yarn produced in the mills went to satisfy the demand of the Indian hand-loom weaver. The Indian hand-loom weaver in his turn supplied the coarse cloth, chiefly to the peasant. Now, it is a well-known fact that in times of depression the first economy that the Indian peasant effected was in the matter of his clothing, and thus the country weaver, with the agricultural labourer, was the first to arrive on the relief works. Hence the market for mill-made yarn shrank rapidly in any period of agricultural depression. We need not, therefore, be surprised to find that during the period of the two terrible famines (1895-1900), the cotton industry also suffered a very severe trade depression. The famines, with the attendant depression of the hand-loom weaver, contributed largely towards this depression of the cotton industry, but there were also other causes at work during the period which were quite as important in bringing about this result.

In 1896 appeared in India, for the first time, in a virulent form, that epidemic which has been working havoc ever since with the population. This scourage, the bubonic plague, appeared first in that year in Bombay. It may have been known in India before, but never in such a terrible form. The result was that the population of

[1] The jute industry was also affected in its Indian demand. For the reduction in the exports of food-grains and other raw products affected the demand for gunny bags.

Bombay, frightened at this strange and terrible visitation, left the city in large numbers. There was a wholesale exodus ; and with the rest the labour force of the cotton industry left the city. This was the first blow. After a year or two the people became accustomed to the epidemic, and though it did not abate in its intensity, the labour force was not so sensitive to its visitations as to its first appearance. After the first famine came the plague and after the plague the second famine. But this was not all. Two other factors appeared just afterwards. In 1902 there was the great American speculation in cotton ; this sent up the price of cotton to extraordinary heights. The mill and the hand-loom industry both suffered. The high price of cotton made the production of manufactured goods, especially the coarser goods, on which chiefly the Indian industry depended, highly unprofitable. The other factor was a disturbance in India's chief foreign market, viz., China. The bulk of India's foreign exports of yarn went to China and a depression in that market meant a great blow to the spinning industry. Thus this period of depression lasted from 1896 —with slight periods of recovery—up to nearly 1905. But in spite of this prevailing depression the rate of growth in the industry was more or less uninterrupted.

Cotton Industry, 1895-1914

	1895-6	1900-01	1904-5	1907-8	1913-14
No. of cotton mills	150	194	206	227	264
Persons employed	146,552	156,355	196,369	225,367	260,847
No. of looms ...	37,278	40,542	47,305	66,718	96,688
No. of spindles ...	3,852,611	4,942,290	5,196,432	5,763,710	6,620,576

This table shows that there was a pretty rapid growth in the industry during these years of depression. It will be observed from the figures that during the same period the number of spindles had begun again to rise in a greater proportion than the number of looms ; and that most of the rise in the number of spindles came about during the years 1895-6 to 1900-01. Indeed, this feverish growth in the number of spindles largely contributed to the over-

stocking in subsequent years of the China market and the falling-off in the demand from that quarter.

About 1905 the depression lifted. Agricultural prosperity in a small measure had returned, the plague had ceased to frighten people away from industrial centres, the price of raw cotton had resumed its normal level and China was bare of stocks. Therefore in the next two or three years the Bombay industry enjoyed unprecedented prosperity. The boom was especially pronounced in the yarn industry and the spinning mills paid fabulous dividends. The demand for the yarns was so great and the price so remunerative that the mills were kept working for as long a day as was, in the circumstances, possible, and the newly introduced electric light made possible a very long day. There was feverish production and the China market was soon overstocked again. With this, in 1907, came also the general world trade depression. Short time had to be run everywhere, especially in the yarn mills. The progress was continued well after this depression and in 1914 the cotton industry was a growing and a fairly prosperous industry.

Apart from the ordinary progress two tendencies may be noticed in the recent history of the industry. These were (*i*) the continuance—very marked since the beginning of the century—of the more rapid growth in the number of looms as compared with the number of spindles and (*ii*) the tendency of the cotton manufacturers to turn out a finer class of goods. The first of these tendencies will be easily seen from the table. The reason for this growth of the weaving industry is not far to seek. It is to be found in the violent fluctuations of the last twenty years. The yarn market for the Bombay industry was mainly the China and the home market. For its exports depended almost entirely on the China market. Here it had to face the competition of Japan and Lancashire. Depending thus for its export almost entirely on one market, which again was not particularly stable, the fluctuations in the fortunes of the yarn industry were naturally violent. As regards the home demand, this also varied with the fortunes of the agriculturist. The Bombay industry was, therefore, always trying to find new markets for its yarn products, but in this it had not been particularly successful. Mr Graham Clarke gives another reason for this tendency of the mills to add looms in a larger proportion. He says that 'the cloth market, being farther removed from

the raw material, is a more stable market than the yarn market. At times the yarn mills make much larger profits than ever fall to the lot of the weave mills, but when the reaction comes the yarn mills usually feel it first. Thus in 1905 and part of 1906 yarn mills simply coined money, while the weave mills only made moderate profit. At this time (April 1907) the yarn mills are running short time while the weave mills are making the same profits as before'.[1] Considering this it was natural that the industry should now turn to the stabler weaving markets. The market for woven goods was very largely the home market, only about one-sixth to one-seventh of the total production being exported. (In the case of yarn the proportion of exports came up to more than a third, but this proportion was a slightly diminishing one.) These exports went chiefly to Arabia, Persia, East Africa and the Straits. Now the home market for mill-woven goods, not being dependent on the poorest classes, was much more stable than the market for the products of the hand-loom. Thus there were no phenomenal profits to be reaped in this branch of the business but the prosperity of the industry was more stable. The other tendency, that of the production of finer counts of yarn, was due to the same causes. In the initial stages of the growth of the cotton industry, when the market was very large and the extent of the industry very small, the flow was naturally in the direction in which dividends were most easily earned. In the early days, the well-nigh universal system of paying the agent on the output of the mill, without any relation to profit and loss accounts, told also in favour of the very general production of coarse yarns and only the inferior kinds of piece-goods; and once the machinery was installed for the production of these coarse goods it was difficult and uneconomical to produce the finer qualities on it. But since 1890 the expansion of the foreign market for coarse yarns had been very slow; the home market had also been completely captured by about 1900, and the competition in the industry had become keen. The industrialist had, therefore, to turn his attention to newer and more profitable fields.[2] In spinning, the best new market available was the home market for finer yarns,

[1] Graham Clarke, op. cit., p. 13.

[2] See article by Mr (now Sir) D. E. Wacha, pleading for a movement of the industry towards the production of finer goods, in the *Industrial Quarterly Review of Western India*, vol. I, no. iii (1892).

which as yet was completely dominated by Lancashire. The larger growth of looms was also prompted by this desire to find new markets for the industry. In this connexion it should be noticed that the quantities of twist and yarn exported from India were almost stationary from the nineties onwards while the quantity of piece-goods had slightly diminished. Thus with stationary or contracting foreign markets the growing industry had to turn its attention more and more to the home market and here the production of finer yarns and piece-goods was the most promising field.

The growth of the jute industry in India at this time was unmarked by any special feature except its rapidity.

Jute Industry, 1895-1914

	1895-6	1901-2	1907-8	1913-14
No. of mills	28	36	54	64
Persons employed ...	78,114	114,795	187,771	216,288
Looms	10,169	16,119	27,244	36,050
Spindles	214,679	331,382	562,274	744,289

The old tendency for the number of mills to increase in a much smaller proportion than the number of hands, looms and spindles is still marked, but not to so great an extent. Here another interesting feature is that the number of looms and spindles has increased in a much greater ratio than the number of hands employed. This very possibly shows economy of labour, by the introduction of better machinery or on account of the management being on a larger scale than before. The growth of the industry was not so rapid during 1895-1900 on account of the prevailing famines; though these did not directly affect the industry, they did so indirectly by stopping the export of the food-grains and other raw agricultural produce out of India and thus diminishing the Indian demand for gunny bags. The industry also suffered a few periods of depression, such as the one in 1905-6. The growth of the jute mills took place mostly round Calcutta, and the extent of the industry outside this area was insignificant. The Bengal industry possessed a great advantage in being near the source of the supply of raw jute; for Bengal had a monopoly of jute. During this decade, however, competition was growing

abroad, especially in Germany and the United States. The Continental and American industries were generally encouraged by their national Governments by a tariff on foreign jute products, while raw jute was allowed in free. But this did not interfere with the growth of the Indian industry, and side by side with a large increase in the exports of raw jute the exports of jute manufactures were also increasing rapidly.

The production of minerals in India made rapid strides during the period 1895-1914. The old industry of coal-mining made very rapid progress and two practically new industries—petroleum and manganese—attained great importance during this period. Some idea of this great general increase can be had from the following table :

Total Annual Value in Rupees (quinquennial averages) of Mineral Production in India

1898-1903	1904-1908	1909-1913
Rs 6,49,48,905	10,07,44.875	12,58,98,330

The record of the coal-mining industry is one of almost uninterrupted progress. It progressed by leaps and bounds and outran the hopes of the most confirmed optimist. The average production of coal for the years 1891-5 had been 2,460,000 tons, while the average production during 1896-1900 was 4,228,000 tons. Enormous progress was achieved in these five years and, what is more, the rate of progress was well kept up in the years which followed. That the coal industry did not suffer on account of famines is due to the fact that its chief customers were the railways and the jute and other Bengal industries. Railways, far from suffering from famines, were then busier than ever.

Coal Industry, 1900-1914

	1901	1906	1911	1914
Total output, tons ...	6,038,053	9,112,663	12,051,835	15,738,153
Persons employed ...	...	99,138	116,153	151,367

The progress was not due at all to the discovery of any new coal-fields but to the increased exploitation of the well-known Bengal coal-fields.[1] These coal-fields together in 1906 produced 95 per cent of the total Indian production of coal.[2] The history of the industry during this period was not continuous. Its rate of growth was, indeed, rapid throughout, and, generally speaking, uniform, but if we consider it in relation to the growth of the railways and the coal-mining industry in India, then the history seems to fall into two distinct periods; the first from 1895 to about 1908 and the second from 1908 to 1914. The first period was marked by two distinct tendencies: (*i*) the growing excess of the exports of Indian coal over the imports and (*ii*) the diminishing share taken by the railways of the total produce. At the same time the imports of coal into India were also steadily diminishing. In this period Indian coal more or less captured the demand of the railways completely. The Indian railways had since 1902 almost given up using foreign coal. From this date onwards, of the total coal used on Indian railways, 99 per cent was Indian. As to the proportion of the total coal output of India used on Indian railways, in 1895 about 38 per cent of the total was taken by the railways; in 1906 this had fallen to 30 per cent and it continued to diminish further for some time. Both these tendencies showed that the coal production of India was increasing at a slightly more rapid rate than the railways and the coal-consuming industries. But these features were absent in the years after 1908. The exports of Indian coal diminished slightly; this was attributed partly to the large quantities of inferior coal sent out of India during the boom of 1908, but it could not have been entirely due to that reason. As for the imports 'between 1881 and 1895 the imports of coal into India were almost stationary. From the latter year a steady decrease set in until 1909 when the minimum was reached. In 1909 largely owing to the high price of coal during 1908 the quantity increased'.[3] But the quantity continued slightly to increase even after this year. The exports still exceeded the imports but the

[1] These, after the reorganization of provinces in 1911, formed a part of the newly created province of Bihar and Orissa.

[2] Sir T. Holland, *A Sketch of the Mineral Resources of India* (1908).

[3] V. Ball, *The Coal-fields of India*, revised by R. R. Simpson, chap. iii (1913).

margin between the two was materially diminished. Again, as regards the percentage of the total annual consumption of Indian coal on Indian railways, the proportion fell to 95 per cent from the 99 per cent of the latter years of the previous period, and this in spite of the fact that the railways were now consuming a greater proportion of the total output of Indian coal than they did before. 'The Indian coal consumed on railways has formed over 31 per cent of the total production during the period under review (1909-13), this being higher than the figure for the previous period 1904-8, and indicating that railway expansion has, if anything, outstripped the coal consuming enterprise.[1] But the facts not only showed that the railways had outstripped the coal consuming enterprises but also that the railways and the coal consuming enterprises together were growing at a faster pace than the production of coal in India. It must be noticed here that Indian coal was handicapped by two facts in its competition with foreign coal. In the first place, it was not of the high quality required for certain industrial purposes and, secondly, the high railway freights made competition very difficult in parts of India distant from the coal-fields. Thus there was very little difference in price—especially when the difference in quality was also considered—between Bengal and Welsh coal, in a western port like Karachi.

The causes helping the growth of the coal industry were the growth of communications and the growth of the factory industry. The large growth of output was due largely to the fact that improved machinery was widely coming into use throughout the industry; still in many of the smaller mines very little machinery was used. The growth was also helped considerably by the change made in the conditions of the grant of mining leases and licences. The old rules regarding these were undoubtedly irksome and imposed unnecessary restrictions on the capitalists. The figures for the concessions granted before and after the change of rules are instructive. These were in 1899 only 60, but rose in 1904 to 189, in 1906 to 252 and in 1907 to 400.[2]

The growth in the exploitation of the petroleum deposits of Burma was almost as rapid as in that of coal. The extraction of crude oil by rather primitive methods had been going on in these fields of

[1] *The Quinquennial Review of the Mineral Production of India* (1903-13), p. 17.

[2] Sir T. Holland, op. cit.

Upper Burma for a very long time. Very little machinery was used and the fields were controlled by a very closely formed guild-like organization.[1] Up to 1887 exploitation by modern methods had not been tried in this industry at all. In that year two companies were started to exploit the oil, equipped with modern drilling machinery. The beginnings were modest and in 1890 their production amounted only to 1,516,975 gallons. The Upper Burma deposits are the only important ones in India ; for they produce over 95 per cent of the total Indian supply. The production did not increase greatly for nearly a decade and it was not till 1896 that the hopes of finding an important supply began to be entertained.[2] The growth in production, however, was rapid after 1896. Even all this growth was not able to supply completely the needs of India and the imports kept on increasing steadily. The exports also of Burma oil were not at all considerable.

Petroleum Industry

	1896	1900	1905	1910	1914
Gallons oil	15,049,289	37,729,211	144,798,444	214,829,647	259,342,710

The next important mineral industry of India is the manganese industry. This may be said to be the creation almost entirely of the twentieth century. For though manganese mining had begun in the Madras Presidency as far back as 1892, the production was still very small at the end of the nineteenth century ; and the important deposits in the Central Provinces were not worked till 1900. At the very beginning, a strong impetus was given to the industry by the outbreak of the Russo-Japanese War, for this reduced considerably the supplies from Russia which were hitherto the most considerable of the world supplies ; the rapid growth was also due to the great activity at this time in the steel trade in Europe and the United States.[3] The rise was rapid and the production reached its highest point in 1907, when it exceeded 900,000 tons ; and for a short time, from 1908-11, India

[1] Dr F. Noetling, *Pertoleum Industry in Upper Burma* (1892).
[2] E. H. Pascoe, *The Oilfields of Burma* (1912).
[3] A. H. Curtis, *Manganese Ores*, p. 34 (1919). See also Holland and Fermor, *Quinquennial Review of the Mineral Production of India* (1904-8), pp. 128-129.

held the position of the largest manganese producing country in the world. Following the depression in the steel trade in 1908 there was a depression in the industry. It recovered for a short time when there was another interruption in the Russian supplies. Manganese was raised in India entirely for export in the absence of a local steel industry. The industry employed in 1913 about 20,500 persons.

The gold industry of India was considerably older than the two above mentioned. The only important gold-field in India is the Kolar field in Mysore. Attention was directed towards this field by the old Indian workings and about 1880 many companies were floated for the exploitation of gold in India. The expectations were very great in the beginning but they were doomed to be disappointed. 'All the companies floated with such extravagant hopes were moribund in 1885, and it was only a dying effort of the Mysore Company in that year that disclosed the richness of the reef. . . . . By 1887 the adjacent companies had resumed operations and from that time till 1905 the history of the field was one of uninterrupted progress and success.[1] Since the latter date there has been a fall in the output owing to zones of lower grade having been reached. Till 1902 gold was the most important in value of the Indian mineral products; after 1902 its place was taken by coal.

The other important mineral industries of India are the production of salt, mica and saltpetre. The first is a very important industry. The supplies are drawn from different sources such as sea, rock and lake. The Indian production is, however, not able to meet entirely the home demand. As regards mica India is the chief producer in the world. The industry, though not very important, employed nearly 18,000 people in 1913. Saltpetre, of which India had a practical monopoly, was at one time an essential ingredient of all high explosives but since the discovery of substitutes for it (about 1860) the industry has been in a stationary condition.

As regards the iron deposits of India, which exist in abundance, the only successful attempt to manufacture iron had been at the Barakar works on the Raniganj fields.[2] Other attempts had been numerous but all had failed.[3] During the first decade of

[1] *Quinquennial Review of the Mineral Production of India* (1909-13), p. 85.
[2] E. R. Watson, Monograph, *Iron and Steel*, Bengal (1907).
[3] Ranade, op. cit.

this century Tata and Sons floated their company to produce iron and steel in India. They began working in 1911 but naturally their production by 1914 was not large.[1]

There had been, on the whole, a remarkable growth in the mineral production of India during this period. But compared with the needs of India it was yet insignificant. This is shown by the fact that the total value of minerals and mineral products imported into India far exceeds the total value of those produced in the country. Not only was the development insufficient, but it was only one-sided. The six important mineral products of India were coal, petroleum, gold, salt, manganese ore and mica. Of these the first four are consumed by what have been called by Sir T. Holland the 'direct processes', and the last two were grown purely for export. There was an almost entire lack in India of the mining of metal liferous minerals. 'The principal reason for the neglect of metalliferous minerals is the fact that in modern metallurgical or chemical developments the by-product has come to be a serious and an indispensable item in the source of profit, and the failure to utilize by-products necessarily involves neglect of the minerals that will not pay to work for the metals alone. . . . A country like India must be content, therefore, to pay the tax of imports until industries arise demanding a sufficient number of chemical products to complete an economic cycle, for chemical and metallurgical industries are essentially gregarious in their habits.'[2] It was by a skilful utilization of all the products, then, that European industry had been able completely to vanquish the very old established metal and chemical industries of India; and as pointed out in the above extract the revival of these industries depended on the general movement towards development of industries in India.

After the large industries and the general production of minerals we may now consider another group of industries, i.e. the plantations. The history of all these, with the exception of the tea industry, is very chequered. The oldest of these industries, viz. indigo, had been almost stationary from 1860 to 1895. The efforts of German scientists

[1] Lovat Fraser, *Iron and Steel in India* (1919).
[2] Holland and Fermor, op. cit., p. 10. See also Sir T. Holland, paper on the 'Mineral Development of India' read before the First Indian Industrial Conference (1905).

had been directed for a very long time towards the preparation of synthetic indigo ; some of these attempts had been successful, but it was not until 1897 that the first commercially manufactured indigo was placed on the market. The scare was enough to discourage planting over large tracts ;[1] the two seasons just after 1897 happened also to be very unfavourable. Thus from 1897 dates the progressive decline of the indigo industry of India. The area under indigo began rapidly to diminish and the exports began to fall off. For though at first the amount of synthetically produced indigo was not large, it began rapidly to increase and was able to cut prices very low in its competition with natural indigo. The planters tried to strengthen their position partly by cultivating other crops and partly by attempting improvements in the methods of the cultivation and manufacture of indigo. But the decline in the industry could not be checked. The figures for the exports of indigo show how rapid this decline was. (These are a good index because almost all the indigo manufactured in India was exported ; only a small quantity and that of very inferior quality was retained in the country.) The exports were in 1895-6, 166,308 cwts. and in 1913-14, 10,939 cwts.

The coffee industry had a brief period of prosperity from 1889 to 1896. But in 1896 Brazil, by then comparatively free from its political troubles, again began its production in full and prices resumed their decline. Since that year the area under coffee has been steadily diminishing. At the same time the exports do not show the decline in any marked degree. The annual note on coffee (1909-10) has the following : 'While the area under coffee has been steadily diminishing since the season 1896-7, production as judged from exports, which account for the greater part of the crop, has fluctuated from year to year, a small crop alternating with a large one.' The exports were on the whole steady, showing only a slight downward trend. The area under the crop had on the other hand definitely decreased from 260,887 acres in 1900-01 to 203,677 in 1913-14.[2]

[1] C. Rowson, 'Cultivation, etc. of Indigo', *Journal of the Royal Society of Arts* (1900).

[2] The indexes used above to measure the extent and progress of the indigo and coffee industry have been the area under cultivation and the figures for exports. The actual return of factories and the persons employed would have been obviously a better index. The entire lack of such statistics makes this impossible. Government had been, indeed, publishing statistics of 'Large Industries' for a number of years. But they are unreliable and for purposes

The tea industry, on the other hand, had been making steady progress throughout. In the world market for indigo, synthetic indigo had become the dominant factor in the twentieth century, in the coffee market Brazilian coffee had been controlling the market from an even earlier period, but in the tea market Indian tea had been improving its position and was now by far the most important factor. The growth of this industry had been made possible by the India tea steadily driving China tea out of the United Kingdom market. The change, indeed, was very complete. In 1866, of the total imports of tea into the United Kingdom only 4 per cent were Indian and the rest Chinese ; while in 1903 of the total imports 59 per cent were Indian, 31 per cent from Ceylon and only 10 per cent from China. The increase in the tea area, which had been remarkable till 1895, continued. The greatest increases took place in 1897 and 1898. In the next two years the rate of increase was sharply checked and almost stopped in 1902. The production had also been increasing rapidly and the result of this huge increase in production had been a rapid reduction in the prices of tea after 1895. For a time also, the United Kingdom demand was stationary. The result was a decrease in area between 1902 and 1906, and a depression in the industry. After 1906 progress was again resumed. The United Kingdom

of comparison over a series of years entirely untrustworthy. The following extract from the 11th issue of *The Financial and the Commercial Statistics of India* will illustrate the difficulties. 'The statistics are incomplete even as regards large industries which ought to find a place in the tables and the figures given are sometimes of doubtful accuracy. . . . From 1901 no return has been made for any factory or establishment which employs an average of less than 25 persons throughout the year, and from 1902 the returns from Bombay Presidency exclude all establishments with an average of less than 50 persons. . . . The tabulated returns from 1901 are, therefore, not comparable with the figures for previous years, published in an earlier edition of this volume, *when each reporting officer, exercised his own discretion as to what constituted a large industry.*' (Italics are mine.) Later on the basis for the collectoin of the statistics was made 50 persons or over, all over India. But even so we read a special remark against the statistics of the indigo industry. 'The table must be taken more as an indication of the extent of the industry than as a complete record.' As regards coffee, the Director-General of Statistics, Dr O'Connor says, 'It is difficult, however, to ascertain with accuracy the area, yield or condition of the coffee estates of southern India, the planters being averse, for some unknown and unconjecturable reason, to communicate statistical information relating to the industry' (*Review of the Trade in India, 1901-02*, p. 21). The foreign trade statistics of India, on the other hand, are the most reliable and the agricultural statistics are somewhat better than those for large industries.

market began steadily to expand and an important and growing market had been found in Russia.

The plantations, as a whole, were now taking a smaller proportionate share in Indian industry. They were in a somewhat different position from the other industries. They were almost wholly European-owned. They were exempted from the ordinary labour laws of the country and the planter had greater control over his labour force than the ordinary industrialist. These industries were partly agricultural and partly industrial, and all of them exported the greater proportion of their product. The tea and coffee industries opened up hitherto waste tracts, and their chief importance in the industrial progress of India lay in providing an occupation for a great number of labourers from the congested parts of the country.

The sugar industry of India was another of those industries which had a bad time in the nineties. One of the remarkable features of the foreign trade during the decade 1890-1900 was the enormous rise in sugar imports. The imports had been rising steadily for some time before this. They came, then, chiefly from Mauritius and Java. The Indian industry did not suffer at this time. It was only when the beet-sugar imports began to come in, especially after a protective tariff had been placed on them in America, that the real blow was struck at the Indian industry. Beet-sugar forced prices down extremely low and sugar refining in Indian factories became unprofitable.[1] The chief seat of this industry was the United Provinces and some districts of Bengal. Between 1895-1900 over 180 of these small refineries in the United Provinces had to close down and there were many closures in the Bengal districts, e.g. in Jessore.[2] A countervailing duty on these bounty-fed beet-sugars was imposed but this did not help the industry greatly. It had been contended that the fall in the price of sugar would have no effect on the area under sugarcane or the price of *gur*.[3] This expectation, however, was falsified and the area began to shrink. This shrinkage was chiefly due to the fact that, there being a general rise of prices, the cultivation of food-grains, cotton and other crops had become very remunerative. Sugar did not

[1] S. M. Hadi, *The Sugar Industry of the North-West Provinces and Oudh* (1899).

[2] *East India (Sugar) Countervailing Duties Act*. Correspondence, etc. (1901). (Parliamentary Paper).

[3] Memorandum by Mr Mollison, *ibid*.

share to the same extent in the general rise of prices on account of foreign competition. Thus sugarcane cultivation was being abandoned in favour of other more paying crops.[1] Though the competition of beet-sugar first started the decline, it cannot be said that but for this the industry would have prospered. The very basis on which the industry rested was unstable. The unit of production was very small, the methods employed crude and wasteful. There was almost no machinery used in most of these concerns and the very fact that the sugar was manufactured from *gur* and not directly from cane-juice told heavily against the industry. One of the contributing causes of this decline was the refusal of Government to give permission to extract rum from the molasses. The system of cultivation in India also was one of the obstructions to the revival of the industry.

Almost the same fate overtook the leather tanning industry of Madras; and from 1899 Madras, whence exports of raw hides and skins had been insignificant hitherto, began to export them in increasing quantities. The decline was due to the discovery in America of the chrome processes of tanning. This, together with the application of machinery on a very large scale in the boot and shoe industries, created an enormous demand for raw hides and skins in the west. The prices rose very high and the tanner found it impossible to carry on his business profitably. There was another way in which the discovery of chrome-tanning processes affected Indian tanning. Before these processes were introduced, there was a large demand in foreign countries—especially in England—for the vegetable and bark-tanned Madras hides; but before using them the leather manufacturer abroad had to re-tan them. It was impossible to treat an already vegetable or bark-tanned hide by the chrome processes; this meant a serious diminution in the market for Indian tanned hides and skins.[2] Another adverse influence was the finding of the Committee appointed by the Royal Society of Arts that Indian tanned leather was unsuitable for the purposes of book-binding. Attempts had been made at this time to introduce the chrome processes in Indian tanning but they were mostly unsuccessful. There was during this decade, however, a small growth of the large-scale tanning industry in the Bombay and Madras Presi-

[1] F. Noel Paton, *Sugar in India* (1911).
[2] Chatterton, op. cit., and other provincial monographs.

dencies—especially in the former. The two big centres were Bombay and Ahmedabad. The industry was on a much larger scale than the now decaying Madras industry and the unit might more properly be called a factory than a workshop. At the same time the methods used in the industry, except in a very few tanneries, were still crude.[1] The extent of this industry was, on the whole, small.

During these twenty years a considerable increase had taken place in that section of the industry which comprises the cotton gins and presses, the rice and timber mills, etc. Rice mills, which had been hitherto more or less confined to Burma, spread into India proper, notably in the Madras and the Bengal Presidencies. Engineering and railway workshops, iron and brass foundries also grew. The growth in this class was due very largely to the extension of railways in India and to the introduction and extended use of cycles, motor-cars, tramways, etc. They also indicate a somewhat larger use than before of small machinery in ordinary operations, such as small pumps for lifting water, the introduction of small motors in workshop industries, where mechanical power had not been used before, and also the establishment of small flour or oil mills, etc., in many parts of India.

It is indeed in this direction of a slow spread of the use of improved machinery in various operations, the introduction of small motors where no power was used before, and the establishment of small local and isolated factories in industries in which no very complicated processes were required, that the real industrial progress, whatever its extent, took place in India during this period.

An examination of the results of the industrial census of India taken in 1911 will prove the truth of this statement, as well as help to bring out the extremely small extent of modern industry in India. The definition of a factory was taken to be any industrial establishment employing on an average more than 20 hands. In all, 7,113 factories were counted in the census. Of these, 4,569, i.e., a little less than two-thirds, used mechanical power in some form or other, while the rest did not make use of any mechanical power in their industrial processes. The total number employed in this industry amounted only to 2,105,824. The industry was not only small, but its character also was very limited. Among the sixteen groups into which the

[1] A. Guthrie, Monograph, *The Leather Industry* (Bombay 1910).

industry was divided by the Census Commissioner the number employed exceeded 100,000 only in four groups.

These were :

	Persons employed
(*i*) Growing of special products, i.e. plantations, etc.	810,407
(*ii*) Textiles	557,589
(*iii*) Mines	224,087
(*iv*) Industries connected with transport ...	125,117
Total	1,717,200

These four groups between them contain over 81 per cent of India's industrial population. But the groups are comprehensive and the idea conveyed is that of a rather varied industry. The correct impression will be conveyed by the enumeration of individual industries which employed, say, more than 20,000 people.

Industrial Census, 1911

Industry	Persons employed	Industry	Persons employed
Tea plantations ...	703.585	Brick and tile factories ...	46,156
Cotton	308,190	Flour and rice mills ...	42,374
Jute, hemp, etc. ...	222,319	Printing presses ...	41,598
Collieries	142,977	Indigo plantations ...	30,795
Railway workshops ...	98,723	Gold-mines ...	28,592
Coffee plantations ...	57,623	Machinery and Engineering workshops ...	23,147

After these follow saw mills, stone and marble quarries, timber yards, iron foundries and petroleum refineries. These made up the whole class of industries employing more than 10,000 persons. It is easy to see that the first four were the only industries at all

important. On the plantations, a large proportion of the persons employed were engaged in purely agricultural work. The onesided nature of the development of mineral industries has already been explained. Thus of the factory industry proper—i.e. apart from mineral industry—there remain, after cotton and jute, only the accessory industries, i.e. workshops, foundries, etc., and the class of gins, presses and rice and timber mills. Indeed these latter two classes, if we also added to them the class of flour mills, oil mills, etc., were, after the large textile industry, the only considerable modern industries in India. The extent of industries in India at this time was extremely limited and it should be noticed that industries in which complicated processes were required are markedly absent.

Turning now to the condition of labour in Indian factories, we find that the Factory Act of 1892 remained in operation till 1912. When the Act was passed in 1892, general satisfaction had been expressed as regards its provisions. Nearly a decade after the passing of the Act a factor was introduced into the hours of labour which could not then have been taken into account. This was the introduction of electric light into the factories. Its first introduction into the Bombay industry coincided with a big boom in the yarn market. This made the working of the mill for excessively long hours profitable, and it had been made possible by the introduction of electric light. The Committee of 1891 had considered the sunrise to sunset hours as normal in India and thought them to be not excessive. But these calculations were now upset. The hours worked in the Bombay industry during the 1905 boom were extremely long, sometimes lasting from 5 a.m. to 9 p.m.; and on an average a 14½-hour day was worked in the industry during this period.[1] Attention was attracted towards these excessive hours by articles in the press, and Government appointed a Committee to inquire into the condition of textile factories labour ; the report of this Committee pointed to the necessity of a more detailed and a wider enquiry. Another Commission was accordingly appointed to consider the whole question of factory labour, and presented its report in 1908. One of the most interesting facts brought to light in this report was that in many cases the provisions of the Act of 1892 were openly disregarded. In

[1] *Report of the Textile Factories Labour Committee* (1907).

the cotton mills of the United Provinces, south Madras, Bengal and the Punjab children worked the same number of hours as adults ; also quite a number of children under 9 years of age were employed in the factories as half-timers. In this connexion, 'one manager of a mill (Calcutta jute mill) stated that he did not send the children to the doctor to be certified prior to employment as he had a shrewd suspicion that most of them would probably be rejected ; while he frankly admitted that the mills made no change whatever in their system consequent on the amendment of the factory law in 1891' :[1] The Khandesh gins, which had been brought under the law in 1891, were a good deal better now ; but in the smaller gins and rice mills in other places the hours were still very excessive. Thus in the Gujerat gins, not under the Act, 15 to 18 hours a day were sometimes worked. These factories, as they depended entirely on the supplies of rice and cotton, worked spasmodically ; the pressure during the rush season being very great and consequently the hours excessive. The hours of adult male labour were the worst in the smaller up-country centres. These hours were mostly to be found in the cotton industry. The north India centres, namely, Agra, Delhi and Cawnpore, were specially bad. The average hours worked were over 13½. In the Calcutta jute industry the hours were not excessive, except for the weavers who sometimes worked a 15-hour day ; the hours of children were excessive everywhere and the physique of the factory children compared unfavourably with those outside. But the point most keenly discussed at this time was the regulation of the hours of adult males. The majority of the Commissioners, though they did not recommend a legal regulation on this point, found that the labourers suffered from these excessive hours ; and they provided for a regulation of the hours of women and children which, in their opinion, would automatically reduce the hours of men. Dr Nair differed from them on this point. A large portion of the evidence showed the advisability of short hours. The excessive hours were defended, chiefly, on the score of the 'ingrained habit' of the Indian worker to loiter during working hours. The evidence showed, however, that the habit was itself a necessary corollary of excessive hours. In this connexion a most interesting experiment was carried

[1] *Report of the Indian Factory Labour Commission* (1908), p. 17.

out by the Cawnpore Elgin Mills. These mills, at one time, worked a 15-hour day, but they found it uneconomical and wasteful. So they brought the hours gradually down to 12 and found that the gross out-turn was not diminished, that the men still earned the same pay and that the work was better done.[1] A similar experiment was carried out in the Buckingham Mills in Madras, where the experience of the manager was that 'while they had reduced the working day by three-quarters of an hour (i.e. from 12½ to 11¾) there had been no decrease in the total production'. He attributed this to better machinery, better supervision, and increased application of the operatives.[2] Evidence to the same effect was given by Mr (now Sir) Bezonji Dadabhoy Mehta, the experienced manager of the Nagpur Empress Mills.[3] The shorter hours were then more economical. In Dr Nair's opinion not only did the long hours induce loitering and bad work but they were also responsible for the periodic holiday that the labourer took in the country and also his frequent absence from work. These excessive hours were physically very harmful to the workers and they were early 'used up'. Dr Nair pointed in support of this contention to the remarkable absence of any elderly men in the factories. They also restricted the possible labour supply in the mills, for only those who could physically endure the strain could be employed.[4]

The excessive hours in the factory industry, then, limited the supply of labour forthcoming. The same might be said of the deplorable and insanitary conditions in some industrial centres. For these also discouraged the movement of labour into these centres. There was at this time in India a loud complaint from all the manufacturing establishments of the scarcity of labour. A difference must be made here between two kinds of scarcities. There were certain establishments which suffered a chronic scarcity of labour. This was generally felt only in the industries or factories where the working conditions or housing conditions were utterly bad, or where the work was particularly strenuous. Thus Foley found that in Bengal there was

[1] *Factory Labour Commission*: Minutes of Evidence. Evidence of Mr Bevis of the Elgin Mills.

[2] *Factory Labour Commission*: Evidence of Mr Alexander. The factor of better machinery somewhat vitiates the value of this experiment.

[3] Ibid. Evidence; see also his paper read before the Third Indian Industrial Conference, 1907.

[4] *Factory Labour Commission*: Evidence of Mr Freemantle.

chronic scarcity only in the cotton mills of Calcutta (where the hours were very excessive and wages much lower and work much harder than in the jute industry), in some jute mills at Howrah (which were in a terribly congested locality and where the housing conditions were particularly bad), and in the coal industry for coal-cutting.[1] In the coal industry it should be noticed that there was no shortage at all of surface labour. There was also a chronic shortage in many of the United Provinces centres. This is really surprising when we consider that the districts surrounding these centres themselves supplied a great portion of the emigrant population of India and also a very great portion of the labour force for the Calcutta industries. The chronic shortage was due, in most of these centres, to the conjunction of two factors—very bad working conditions ; and very bad housing conditions. The chronic shortage was, then, due to the conditions obtaining in the industry and not to any other factor.

But there was another phase of the question of the 'scarcity of labour'. This was the periodical scarcity. The only industries which did not feel this periodical scarcity were (*i*) those in which particular care was taken of the labour supply ; or (*ii*) those which provided kinds of work specially liked by the Indian labourer ; or (*iii*) seasonal industries which did not clash with the busy season of agriculture. The Giridih coal-fields afforded a good example of the first kind. Here special care was taken of labour and there was never any shortage. The same was the case with the Calcutta jute mills which provided good lines for their coolies. Then again, there was never any shortage of labour for railway construction, which was particularly liked by the Indian labourer. The jute pressing industry provides a good example of the third kind ; and here also no scarcity at all was felt.

But a periodical scarcity was felt in all the other industries. The period, however, at which the scarcity was felt differed from one place to another. This depended chiefly on the localization of the industry. It is difficult to make a generalization, but it may be said that in an industrial centre surrounded by rural districts from which it drew its labour supply this shortage was felt at the harvest season, while in an industrial centre whose labour supply was drawn from distant districts

[1] B. Foley, *Report on Labour in Bengal* (1906).

the scarcity was in the hot weather or the marriage season (both these coincided). Thus shortage in Cawnpore was particularly acute at the time of the movement of the crops ; in Sholapur the scarcity was only felt at the harvest season and so also the labour of the coal-cutters, who were generally aboriginal Santhals, was specially scarce during the harvesting and cultivation of their rice crop.[1] On the other hand, the periodical shortage was felt in both Bombay and Calcutta in the hot weather and marriage season. The first kind of scarcity explains itself. It is obvious here that the labour has not yet severed its connexion with the land. The labourer is still partly an agriculturist ; most probably he owns a plot of land or has a share in one, and goes home to assist his family in harvesting the crop. This is a definite and marked stage in the industrial development of every country. This sort of periodical shortage could not be removed until, with the growth of a large industry, a definite factory population was created. Labour in Calcutta and Bombay marks an advance on this stage. The labourer here, at least in Calcutta, is a member of an agricultural family, but he has severed his connexion with the land, in so far as he no longer regularly works on it. Here we have to differentiate between Calcutta and Bombay labour. The Calcutta labourer, who generally came from the United Provinces, did not bring his family with him to Calcutta. Therefore he periodically went home. The severance from the land both of Bombay and Calcutta labour was first induced by the distance from home. In the case of Bombay labour, however, the severance was almost complete ; for the Bombay labourer came to the city with his wife and often the whole family would come up to Bombay to work in the factories. But even the Bombay factory worker was not completely an urban worker. He kept up his connexion with his native village, periodically visited his home, and generally retired there in his old age. He also sent his wife for child-birth to his native village. There is no obvious explanation for this. For the labourers do not seem to have any direct connexion with the land. The following are a few extracts from the evidence before the Factory Commission on this point. One witness stated : 'The elderly men retired to their village and could not return to

[1] E. A. Horne, 'Industrial Development and the Labour Question', *Bengal Economic Journal* (April 1918).

mill-work because their constitution was generally shattered; generally they had not saved anything and had to live by cultivating the soil.'[1] Another stated: 'The elderly people retired to their homes when they reached 40 or 45. If they had saved money they followed a small trade, and if not they remained in Bombay and their children kept them.'[2] The most reliable evidence, because it is of one of the operatives themselves, gives this: 'Very few of the Bombay operatives are settled in Bombay; almost all of us have our homes in Konkan and go there once every year or two for a short visit. When a man is too old to work he does not return to Bombay, but passes his old age at home, *being helped by remittances sent from Bombay by working members of his family*.'[3] The reliance on savings on remittances in old age shows that the operative did not own a share in land; he did not go to the country for agricultural work but for a holiday. The severance of this worker, economically, from the land is certainly complete. There must have been, therefore, some strong reasons which prevented the labourer from settling definitely in Bombay; and it seems probable that but for the very bad housing and sanitary conditions in that city a definite, permanently settled factory population would now have been developed there.

The periodical 'scarcity of labour' was, then, a natural result of the phase of industrial development through which India was passing, a result which was, however, greatly intensified by the conditions obtaining in Indian industry.[4]

[1] *Factory Labour Commission*: Evidence of Mr Keluskar.
[2] *Factory Labour Commission*: Evidence of Mr Nare.
[3] Ibid., Evidence of Bhiwa Bawaji (Italics mine).
[4] See B. Foley, op. cit., chap. vii. Mr Foley finds that 'the present state of affairs in Bengal cannot be said to be inconsistent with the conditions of life of the factory operative and the agricultural classes'. This was generally painted by the manufacturers as a highly anomalous state of affairs.

IX

RAILWAYS AND IRRIGATION

THE co-relation of the railway systems and the canal systems in India is not the same as in most other parts of the world. Almost everywhere else, they are merely the two branches of a transport system. The commercial revolution in England, finally brought about by the extensive railway construction, was begun by an English system of canals. This was also the case in many Continental countries. In India, however, canals are rarely built for the purposes of transport. Inland water transport in India is carried only on the big rivers, and even on these the parts navigable throughout the year are of a comparatively short length. On the canals, the only systems on which navigation was possible to any large extent were some of those in Bengal and Madras.[1] The obvious connexion, then, between the canals and railways did not hold in India.

But they were inter-connected in other ways. Firstly, the Indian Government soon discovered that private enterprise could not be relied on to carry on the work of railway and canal extension in India; so a very important department of the Government—the Public Works Department—took charge of both these works of public utility. This was the work of Lord Dalhousie. Irrigation and railways were again connected in another way. For the original reason given for a rapid extension of both these was the same, i.e. protection against famines; and the respective merits of these two for this purpose was the subject of a very keen controversy, carried on during the last three decades of the nineteenth century.

Section I.—*Railways*

The original policy of Government in the construction of railways was the policy of guaranteed companies. The construction was carried on and capital found by private companies, who were guaranteed a 5 per cent interest on their capital; the surplus profits over this 5 per cent, if any, were to be divided equally between the

[1] 'Except in the deltas of the Krishna and Godavari there is no system of navigation in India, which is of any great advantage to the people.' *Report of the Indian Irrigation Commission, 1901-3*, chap. xviii.

company and Government. Government in these contracts reserved to itself the right to purchase the line at the end of 25 or 50 years. The construction of railways in India was carried on on this plan till 1869 ; but it was found to be extremely uneconomical, and every year Government had to pay to the companies a substantial sum on account of the guarantee. In the beginning it was supposed that the railways would begin to pay over 5 per cent within a very short time of their construction, but this was proved to be an unwarranted supposition. The railway companies had also no inducement, on account of the guarantee, to be economical in their management.[1] The original plan having been found wasteful, it was given up, and from 1869 to 1879 Government tried the experiment of railway construction entirely on its own account. From 1879 private companies were, however, again allowed in the field. These new companies were guaranteed no interest, but in most cases they were financially assisted by Government, and in almost every case they were given land free of cost.[2] At the same time Government carried on railway construction on its own account, and it was also undertaken by Governments of some Native States. Thus, through all these agencies the extension of railways had been, during this period, pretty rapid and continuous. By 1914 Government had acquired all the railways built under the old guarantee system. The extension by the private 'assisted' companies since 1879 had not been large, and in 1914 the major portion of the railway lines in India was State-owned.

Railway Systems in India in 1913-14

Total mileage of railway open for traffic ...	34,656	
Total mileage of state lines worked by companies ...	18,680	25,911 total state-owned
Total mileage of state lines worked by the state ...	7,231	
Total mileage of Native State lines worked by the State and by companies	3,396	

The rest was held by small private companies.

The first plans for the extension of railways were drafted by Lord Dalhousie, who first sketched the routes for the main trunk lines. The construction of these trunk lines followed mostly the lines laid

[1] *Report of the Select Committee on Public Works* (1879) ; also evidence before the Committee of Major-General Dickens, Juland Danvers and others.

[2] *Report of the Committee on Indian Railway Finance and Administration* (1907).

down by Lord Dalhousie. The system, on which railway construction was begun in India, had not taken any account of the immediate earning of dividends. The development of railways, therefore, was peculiar. Attention was not directed to connecting contiguous trade points, and to exploring thoroughly the trade of each district through which the railway passed by a systematic construction of feeder lines. Instead, the scheme followed was to construct grand trunk lines traversing the length and breadth of the country, and connecting the big cities of the interior with the big ports—Calcutta, Bombay and Madras. By 1875 most of the big centres were so connected. The construction of these trunk lines was mostly the work of the guaranteed companies. The routes from the ports were generally sketched with the intention of traversing the important agricultural tracts of the interior, so as to facilitate the export of agricultural produce. From Bombay, for example, Ahmedabad and the Gujerat cotton tract, Nagpur, with the Khandesh and Berar cotton tract and Sholapur, with the adjacent Karnatic cotton tract, were reached before 1870. From Calcutta, the first extensions were towards the rich but congested tract of the North-West Provinces and the coal-fields near Raniganj, the route taken to the big cities of the north being through Mirzapur and Allahabad to Cawnpore and Delhi. Bombay and Calcutta were connected via Jubbulpore in 1870; Bombay and Madras in 1871. Calcutta had been connected with Delhi in 1867, but for a long time Bombay and the cities of north India were not directly connected. This helped greatly towards establishing the position of Calcutta in the export trade of the products of the North-West Provinces. One of the important routes not served for a long time by a railway was the route between Karachi and the Punjab, a fact which delayed the rise in importance of Karachi as a port. The most important grain tract not reached early by railways was Chhatisgarh. This was not reached till the eighties, and up to that time it showed the extraordinary effects of the lack of proper means of communications on prices and the nature of scarcities. The Karnatic cotton also had not been properly reached by extension of the railway to Raichur; and the important centres of Belgaum, Dharwar and Hubli were not served by a railway till the late eighties. But, on the whole, the spread of railway communications was quick in India, and the most important centres were connected together quite early.

Protection against famines was one of the main reasons for railway extension in India; and no doubt the presence of railways helped greatly to lessen the effects of a famine. The Famine Commissioners (1880) found, after comparing the mortality statistics, that the greatest mortality due to famines was found in those tracts in which transport facilities were worst. By 1880 railway construction had gone far enough to afford sufficient protection to most of the tracts liable to famines. Protection against famines was, however, not the only reason for railway extension. An early Committee on railway construction gave the following reasons why it should be pushed on vigorously in India: (*i*) Famine prevention; (*ii*) development of internal and external trade; (*iii*) growth of more remunerative crops in tracts reached by railways; (*iv*) opening up of coal-fields; (*v*) improvement of the economic condition of the people.[1] This Committee also, like all committees on railway construction in India, found that there was great need of carrying on the work of railway construction rapidly. The chief difficulty in following this policy was the bad state of Government finances in and after the eighties, which made wholesale borrowing for the purposes of railway extension a dangerous policy to follow. The Public Works Committee (1879) had recommended the policy of borrowing for railway purposes only, when it was expected that the railways would begin to pay within a short period. But the policy was reversed within a few years after the Committee's report, and Government began to use even the Famine Insurance grant for this purpose. This policy of Government, of pushing railway construction at all costs, was condemned in many quarters, and Mr Gokhale expressed a widely prevailing sentiment when he said: 'I do not mean that the railways themselves are to be condemned, but the manner in which the Government has been going on for more and more railways, starving more useful things, is an objection.'[2] In spite of all financial difficulties railway construction was, then, steadily carried on throughout the period.

There were two factors which mainly affected railway policy in India. The first was the lines on which the construction of these railroads was sketched, and the second was the question of manage-

[1] *Report of the Committee on Railways in India* (1884).
[2] Evidence before the Welby Commission, 1896-1900.

ment. The first factor by the rapid construction of the trunk lines encouraged through trade between the import centres—especially between the internal marts and the big ports. Railway construction at this time looked more to the development of the foreign trade of the country than to growth of the internal trade. In the absence of any large industries in India at the time, this policy was perhaps natural, but it left a permanent mark on the nature of the freights charged, which to a great extent hampered the industries of India at a later date. Indeed, this policy was not changed at all till 1914. The result of this historical decision was that (in the words of the Industrial Commissioners) 'generally speaking, favourable rates for raw produce moving to the ports have resulted'.[1] Further, the rates had been particularly hard on the industrial centres in the interior of the country, and had resulted in a concentration of industries at the ports. The freights were specially felt by the coal industry.[2] The other obvious effect was that these differential rates somewhat helped the port industries and the foreign industries in their competition with the industries of the interior.

The question of management was rather peculiar. Though the railways, especially since the beginning of this century, have been mostly State-owned, the bulk of them have been managed for Government by a number of different companies. Thus the advantages of a common railway policy, generally to be expected from single ownership, were not obtained in India. A meaningless competition between the different railway companies for traffic has resulted, which is distinctly harmful to the general interests of the country. Again the companies themselves have not been allowed a free hand, and large supervisory powers were given to Government engineers, which obstructed the smooth working of the railways. The result was so harmful that Mr Robertson definitely stated it as his opinion that railways should either be completely State-managed or completely company-managed.[3] In the scramble for foreign trade, and by reason of this policy of dual management, there was one very important function which the railways did not fulfil. They almost entirely

[1] *Report of the Indian Industrial Commission, 1916-18*, chap. xix.

[2] T. Robertson (Special Commissioner), *Report on the Administration and Working of the Indian Railways* (1903).

[3] Ibid., chap. i.

neglected the question of the development of local industries along their lines.[1]

The equipment of the railways, i.e. their rolling-stock, etc., was found to be sufficient for the purpose of trade till the beginning of the twentieth century, but after that, with the growing volume of external and internal trade, it was found difficult to cope with the traffic. The shortness of rolling-stock sometimes had unfortunate results, such as the inability of the railways to carry all the food offered to them from the Central Provinces to Gujerat in the 1899-1900 famine. From 1905 onwards this difficulty became specially acute. The large increase in traffic, especially in grain, coal and manganese ore, contributed largely to this result ; and a large increase in rolling-stock and the addition of crossing stations, sidings, etc., were advocated.[2] But sometimes this result was due to causes outside the control of the railways. In places the traffic was so one-sided and was concentrated within so short a period, that it was bound to become congested during that period. This was the state of the Punjab exports of wheat through Karachi and also largely of the riverine traffic of Burma rice.[3]

The more direct effects of railway extension were a levelling of prices, especially those of food-grains, throughout India, the growth of a large export trade in raw agricultural produce, and, in a certain measure, the extension of the cultivation of crops intended for export ; a large impetus was also given to internal trade. The railways were also instrumental in helping the growth of Indian industries, especially coal and cotton. The whole problem of the coal industry, for example, was that of carriage from the pithead to the place of consumption. In this matter of industrial development, however, certain factors, detailed above, prevented the railways from pushing forward the growth of industries in India to the same extent as they would ordinarily have done.

Hand in hand with the extension of railways in India went on the extension of metalled roads. The policy of trunk lines necessitated

[1] Ibid., chap. iii.

[2] *Report of the Committee on Indian Railway Finance and Administration* (1907).

[3] F. Noel Paton, *Burma Rice* (1912). See also his *Indian Wheat and Grain Elevators*.

the construction of good roads, if the railways were to serve any useful purpose. The extension of roads was as rapid as that of railways, and road construction affected the village life of India rather more directly than railway construction. The road increased the importance of the weekly market in the village economy, and also the importance of local fairs. At the same time the expansion of railways made possible the distribution of foreign goods throughout the country with the help of these markets and fairs. The extension of roads helped also to break down the self-sufficient nature of the village, and had an important effect on the nature of village cultivation. Localization to a certain extent was now possible, at least among an adjacent group of villages. Thus this spread of communications had a very large share in the break-up of the compact character of the village community.

Section II.—*Irrigation*

While the construction of railways was a new method of fighting famines, irrigation was a very old one. The grand 'anicuts' of the south, some of which are of great antiquity, bear testimony to this; so also do the many works of the Mogul emperors on the Ganges and the Jumna; while the inundation canals of Sind, and the tanks, wells, dams and field embankments, which were to be found in all parts of the country, showed that the people of India took great care of the water for their crops. The development of irrigation in India under British rule followed the lines indicated by the works of the old Indian rulers and the practice of the Indian cultivator. The application of modern engineering methods made this development possible on a larger scale than ever before.

The East India Company, after it had been established in India fairly securely, devoted some attention to this question. The first work undertaken was the restoration of old works which had fallen into neglect, viz., the East Jumna and the West Jumna canals, and the Kaveri and Koleroon anicuts. There were also a few new irrigation works constructed; the Ganges Canal was built, and the Godaveri anicut—the work of Sir Arthur Cotton—was also completed during this period. The policy of the extension of irrigation works in these tracts was continued even more vigorously after the Company's rule

came to an end. The works were always built by the Government itself. The method of private companies was tried but failed disastrously.[1] Between 1860 and 1880, the most important works undertaken were the Lower Ganges Canal, the Agra Canal, the Sirhind Canal in the Punjab and the first important British work in the Bombay Deccan—the dam at Khadakwasala. The progress up to 1880, however, had not been rapid ; a good deal of the money had been thrown away on a few hastily conceived projects and no definite policy as regards irrigation works had been laid down. The value of irrigation in times of famine has always been recognized and the extension of irrigation facilities was always one of the main recommendations of all Famine Commissions. The Famine Commission of 1880 recommended a definite programme of work and by 1895 most of these were completed. They were the Sutlej and the Chenab Canals in the Punjab ; the completion of the Lower Ganges and the Betwa Canals in the United Provinces, and the completion of the line of navigable canals between Cuttack and Hooghly. The creation of the Famine Relief and Insurance Fund was also a direct outcome of the famine of 1877-8 ; and from this fund a large number of protective works—railways and canals—were financed. The beginning of the construction of protective work dates from 1881, in which year sanction was accorded to the Betwa Canal project in Bundelkhand. Apart from this a few protective works had, by 1900, been completed in other parts of India, notably the Bombay Deccan, the most important among these early works being the Nira Canal System. The Commission of 1896 also drew up a definite programme, but the lines on which the work was afterwards carried out were laid down by the Irrigation Commission (1901-3). A very comprehensive review of the whole problem was taken by this Commission in its report and detailed recommendations regarding particular works under consideration as well as the general lines of policy were made ; the Commission's attention was specially directed towards the desirability of the extension of irrigation as protection against famines. Most of the new works undertaken since 1903, have been the result of this Commission's recommendations. By 1914, however, though a great many projects were in hand, not many had been completed ; chief

[1] cf. the notorious example of the Orissa Company.

among these were a few productive works in Sind, etc., and protective works like the Tribeni Canal in Bihar, the Ken Canal in Bundelkhand and a few other projects.[1]

A specially interesting episode in the development of irrigation in India is the creation of the Punjab Canal Colonies. In all other projects of irrigation the main object had been the improvement of existing cultivation or making it more secure. The Punjab Canal Colony projects brought large areas of waste land, where there had been no resident agricultural population before, under cultivation. The first important work was the Lower Chenab Canal which was opened in the year 1892. The colonization of the tract made cultivable by this scheme proved eminently successful and later on Government was encouraged to undertake a series of similar projects. These canal colonies have proved a most remunerative investment to Government and have, by adding several thousand square miles to the agricultural areas of the Punjab, greatly relieved the pressure of population in the congested districts of the eastern Punjab, from which the colonists were mostly recruited.

The Famine Commission of 1880 had given an estimate of 29 million acres as the total irrigated area in British India at that time. In 1903 the Irrigation Commission put the average irrigated area in the whole of India at about 44 million acres and estimated that during the last quarter of the nineteenth century the area irrigated by Government works had risen by about 8 million acres and that irrigated by private works by at least 3 million acres. In 1913-14 the total area irrigated was about 46.8 million acres.

There has been adopted in India a twofold classification of irrigation works. All works are either 'major' or 'minor'. For the major works detailed accounts are maintained separately both of capital and revenue expenditure. Generally the accounts were not so kept for the minor works. The major works were further divided into 'productive' and 'protective' works. The productive works were those in which the construction of a canal would enhance the area under cultivation, or the value of the crops, to such an extent that the payments made for water would yield a handsome rate of interest on the cost of construction ; the protective works were those which did not pay

[1] *Review of Irrigation in India*, chap. ix (1918-21).

much, sometimes not even their working expenses, but which it was absolutely necessary to construct for the protection of the tract against famines. The productive works were mostly those in the Ganges and Indus basins, the Sind inundation canal systems, and the big river delta works of the Madras Presidency; while protective works had chiefly to be undertaken in tracts like the Bombay and Madras, Deccan, Bundelkhand, etc.

Not only did the construction of irrigation works not pay everywhere, but there were definite limitations to the extension even of protective works. In this connexion the Irrigation Commissioners remarked: 'We are convinced that there are many parts of India, where the utmost use of every possible means of irrigation will fail to afford complete protection against the failure of rainfall.'[1] The development of irrigation which had thus taken place in India, benefited chiefly only certain parts of the country. The Irrigation Commissioners divided India into three parts according to the nature of their soil: (*i*) Alluvial; (*ii*) Crystalline; (*iii*) Deccan Trap. The alluvial tract was mostly the Indo-Gangetic plain, the Deccan proper consisted of Deccan trap and the rest of India chiefly the Madras Presidency, Mysore, Orissa and Chota Nagpur was crystalline. They discovered that, while nearly 25 per cent of the alluvial tract was irrigated and 15.5 per cent of the crystalline, only 3.2 per cent of the Deccan trap area was protected by irrigation. The bigger rivers all flowed through the first two, but, on account of the evenness of the surface, canal construction was easiest in the alluvial area. In the crystalline tract tank storage was the most suitable form of irrigation. But in the third the absence of big rivers and the nature of the ground made canal construction extremely costly. Thus the scope of the extension of the big irrigation works by the State was restricted, and the utility of such works also could not be extended equally to all parts of the country.

The works constructed by the State, however, did not occupy the whole field; in 1903 only 42.2 per cent of the total irrigated area was watered by the State works, and the rest by private works. Of these private sources, the most prominent means were tanks, wells and field embankments. There are no reliable data as to the extent

[1] *Irrigation Commission Report*, chap. ii.

of the increase of the area irrigated from these private sources, but the Irrigation Commissioners estimated it to be considerable. Here also it is to be observed that the first two tracts were the most benefited. In the Deccan trap area, the only important method of irrigation was by well-construction. On account of the depth of the sub-soil water in the tract, and the nature of the ground, the boring of a well was very costly here ; but, once built, the well was much more durable than in other parts. Field embankments were used for the purpose of retaining rain-water in the field, as well as for preventing the erosion of the soil.[1] The uses of all these means were well understood and their extension carried out by the cultivator, wherever his means and the circumstances permitted. The encouragement of a further extension of these private sources of irrigation by liberal allowances of the 'takavi' grants was strongly advocated by the Irrigation Commissioners.

Irrigation was not always an unmixed blessing, and in the absence of a very good drainage system, water-logging and malaria often followed. In some of the earlier built canals, the evil not having been realized, sufficient attention was not paid during the construction of the canal to the drainage system of the land round about. In the United Provinces and the Punjab, water-logging was often accompanied by the rising to the surface of a saline efflorescence called 'reh', which made the land unfertile. A good system of drainage, and care taken before and during the construction of a canal, were the only remedies against this evil.

The great advantage of irrigation was that the danger from the vagaries of the seasons was very greatly minimized by it. When the immense effect of a famine in India is taken into account, the value of this will be readily realized. Irrigation thus not only made directly for greater prosperity, but prevented almost all the bad effects of famine or of the fear of famine. Its most important beneficial effect was that it encouraged agricultural improvement. It encouraged the cultivator to sink his capital in the land by taking away the fear of an uncertain rainfall. The contrast in the methods of cultivation in the irrigated tracts and in those which were not so protected was

[1] Sometimes these were of a considerable importance. For example the system of 'Bandharas' in the Khandesh and Nasik Districts of Bombay Presidency.

very marked. One of the best instances of such a contrast was that between the standard of cultivation in the area irrigated by the Nira and Mutha Canals and the standard in the other parts of the Bombay Deccan. Further, it became necessary for the cultivator to go in for the more remunerative crops like sugarcane and cultivate intensively, if he wanted to pay the water rate, the extra rent, etc., on a piece of irrigated land. Thus these two factors, a comparative steadiness of return, and the high rents and other charges, induced the cultivation of the more remunerative and specialized crops, and made cultivation more intensive. The peasant could not make the cultivation of ordinary food-grains in the usual way, for family consumption, pay ; he had to grow a highly priced crop intended for the outside market—Indian or foreign. The effects were the same whatever the crop—whether wheat in the Punjab or sugarcane in the Deccan. It helped the movement of commercialization of agriculture, and very definitely encouraged the tendency of growing for the market as against that of growing mainly for home consumption.

X

GROWTH OF TOWNS[1]

DR Clapham says 'the best general test of the industrialization of a nation's life under modern conditions is the rate and character of the growth of its towns.[2] Some light, therefore, would be thrown on the recent industrial development of India by an examination of the rate and character of the growth of urban population in India.

Though we have no statistics to prove it, it is well-known that the urban development of India was, considering the state of industrial progress, far advanced. We know, for example, that in Clive's opinion the city of Murshidabad was in his day more populous than London : and that north India and Bengal at this time contained many big and populous cities. Again, we have no reason to suppose that the urban population of India was in any way growing between 1800 and 1872. The only cities to which any growth at this time can be definitely ascribed were the ports of Calcutta, Bombay and Madras, and a few places in the interior, like Cawnpore ; but, on the other hand, there was certainly a great decrease to be accounted for in the population of a large number of old capital towns, e.g., Dacca, Murshidabad, Lucknow, Tanjore, etc. Indeed, considering that modern industry was almost non-existent in India at this time, and that the extension of transport facilities was not yet largely advanced, it seems more probable that the percentage of the urban population in India was slightly bigger at the beginning of the century than in 1872. In 1872 the percentage of urban population was 8.7 per cent : it seems, therefore, safe to put the proportion at the beginning of the century at least between 9 and 10 per cent. In western countries the percentages of the urban population towards the beginning of the nineteenth century were : England and Wales 21.3, Scotland 17.0, France 9.5, Prussia 7.25, Russia 3.7, U.S.A. 3.8.[3] We might then conclude that urban development in India had progressed at the beginning of this century at least as far as it had in France.

[1] This chapter is based almost entirely on the reports, provincial and imperial, of the different censuses.

[2] J. H. Clapham, *Economic Development of France and Germany, 1815-1914*, p. 53 (1921).

[3] A. F. Weber, *Growth of Cities in the Nineteenth Century* (1899).

The nature of the population of these towns had already been described. For an estimate of the population of India, the first available statistics are those of 1872. The results of the 1872 census itself are of somewhat doubtful accuracy ; but the later censuses were fairly accurate. The chief defect in the statistics of urban population in India is that the definition of a 'town' has varied from census to census. Not only this, but the provincial superintendents of the census have interpreted this definition each in his own way. Generally speaking, a town was defined as any place containing over 5,000 inhabitants, or any place of over 2,000 inhabitants with definite urban characteristics. At the same time many places even over 5,000 which were considered to be merely large villages were left out. It is, therefore, in the group of towns of under 10,000 that the statistics are most unreliable. The difficulty felt in all countries, of a constant shifting of civic boundary, is also met with in these statistics. On the whole, however, for broad generalizations and comparison in big groups the statistics are quite reliable.

Again, it might be pointed out that there is a certain defect in treating these urban statistics for India as a whole. For, here, there are sharp differences. In Bengal Presidency the proportion of the urban population to the total is only 5 per cent, while in Bombay Presidency it rises to over 17 per cent. Unfortunately, the arrangement of provinces at present is so haphazard that none of them displays, as a whole, any entirely homogeneous features. The contrast between different economic spheres is even sharper ; for example, on the plateau of Chota Nagpur only 3 per cent of the population live in towns, while in the populous province of Gujerat nearly one-fifth are town dwellers. But if we leave aside these extreme cases, the proportion is in most parts of India between 8 to 12 per cent of the total population ; and even though the proportion may vary, the nature of the town population and the causes governing its growth or decay are the same everywhere.

The census authorities have divided the towns into various classes, but it is unnecessary here to adopt their classification in full.[1] We would suggest a threefold division. The class of small towns, i.e. towns of a population of 20,000 or less ; another of intermediate

[1] See table at the end of the chapter.

towns, i.e. with a population between 20,000 and 50,000; and that of large towns or cities, the limit of which may be placed in India at 50,000 and over. In the case of small towns, the limit at 20,000 helps to eliminate very largely the statistical inaccuracies in the class of very small towns. The proportions of urban population to the total at the time of the different censuses were as follows:—

1872	...	8.72 per cent
1881	...	9.41 ,,
1891	...	9.46 ,,
1901	...	9.88 ,,
1911	...	9.42 ,,
1921	...	10.2 ,,

The table fails to suggest any considerable movement in either direction. The only increases, in the proportions, of any account, are in the decades 1872-81 and 1891-1901. Between 1881-91 the proportion is stationary, while between 1901-11 it has actually fallen. The reports of the 1921 census make it clear that this decade, even though it shows an increase, cannot be said to have brought about any considerable change.

On account of the inaccuracies in the census of 1872 it is doubtful whether the increase in the decade 1872-81 is really as large as it is shown to be. Thus the urban population has grown just a little more quickly, if at all, than the total population of the country.

The same steadiness of proportions is discovered when we come to see whether there has been any change as regards the character of the urban population—any variation in the proportion of the different classes. This also has been almost entirely steady.

Percentages of the Population of the three Classes of Towns to the total Urban Population

No. of inhabitants	1872	1911	1921
20,000 and under	47.3	47.4	45.5
Between 20,000 and 50,000	18.3	18.7	18.3
50,000 and over	34.4	33.9	36.2

Here there is no corroboration found, if the period be taken as a whole, of Levasseur's proposition, that the power of attraction of

human groups is generally proportionate to their mass.[1] Indeed, the larger towns have slightly lost their place, and the only fact that at all indicates this tendency operating at any time in India is that, during the decade 1901-11, nearly the whole of the rise in the urban population of India took place in the group of towns of 100,000 inhabitants and over.

Thus an examination of the statistics of the urban population does not help us at all. It would indicate, if anything, an economic stagnation in India. We are, in this case, forced to resort to a somewhat general consideration of the different forces that have been acting on the growth of towns in India during the last forty years.

One of the most important factors determining the growth of towns in India at the present time is railway construction. This is a factor which affects the growth of towns in two ways. Firstly, the advent of the railway to a town means generally an increase in trade. If the town is already an important trade centre, the railway greatly enhances its importance. It also has the effect of creating new centres of trade in the tract through which it passes. But if a railway tends in this way to increase the town population, it has also an opposite effect. Often the exigencies of railway construction make it necessary that the old towns should be left aside from the main line. This, naturally, means a diversion of the old channels of trade, and spells the decay of the old towns.

Putting aside railways for the moment, the other factors making for an increase in town population are : (*i*) new industries or further growth of old industries ; (*ii*) famines ; (*iii*) creation of a landless labour class ; (*iv*) tendency of wealthy landlords and others to live in towns. Of all these different causes, the growth of industries has been, at any rate in all other countries, the most important one. But in India its influence has certainly not been as powerful. Indeed, there are very few towns in India at the present moment which are creations of new industries. A conspicuous exception is Jamshedpur which has been created entirely by the activities of the Tata Iron and Steel Works. But in very few other cases has there been such a growth merely because of industries.

[1] Weber, op. cit., chap. ix.

Famines, on the other hand, have been of much more frequent occurrence in India than the creation or growth of new industries; and famines certainly add a great deal to the urban population. During famine time the rural population is out of work; indeed, an Indian famine might be described as a time of national unemployment. As there is no work in the fields, the country population goes to the towns in search of it. In the olden time this movement towards towns in times of famine was very marked. It is said that in the great Rajputana famine of 1868, Agra, Delhi and the other adjoining towns almost doubled their population. But since the improvement of communications and the evolution of a good relief system, this movement towards towns has been greatly checked. Even thus we find that the two decades, i.e., 1872-81 and 1891-1901, in which the movement towards towns was most marked, were both decades in which there were widespread famines in India. But it must be pointed out that, though famines may drive people towards towns, this movement cannot be more than temporary, unless there are occupations in these towns which can absorb this influx of population. In the absence of such occupations the crowds of people who have flocked into towns have to return to the country, as soon as they can find agricultural employment.

The same remarks apply to the creation of a class of landless labourers. The creation of such a class is one of the results of famines; it also results from the steady movement towards the dispossession of old peasant proprietors, which has gone on in India now for nearly fifty years. The creation of a class of landless labourers helps or promotes urbanization only negatively. Such a class is not so bound up with the soil as are peasant proprietors; it is, therefore, more ready to migrate to towns; but here also it will be observed that they can permanently migrate to towns only if they can find employment for themselves there. Indeed, for any movement of the populace there must be an active inducement, and such inducement will be most powerful if it comes in the shape of an increase in wage, or a rise in the general standard of living.

Lastly, we may take into account the tendency of wealthy landlords and others to settle in towns. There is no doubt that, in modern times, as the attractions of urban life have become powerful, there

is a distinct encouragement to absentee landlordism and thus to a partial increase in the population of towns.

It will be apparent that, the numbers of the wealthy classes being very restricted, the numerical effects of this movement may be considered as entirely insignificant.

Thus on an examination of these causes, it will be found that the only important factors that effect a definite and permanent movement from the country to the town are the increase of trade and the growth of industries.

On the other hand, there are a number of other influences acting today in India in the opposite direction. These may be enumerated as follows: (*i*) diversion of trade routes into different channels; (*ii*) decay of old handicrafts; (*iii*) epidemics; (*iv*) insanitary conditions and bad housing in towns. The diversion of trade routes is a consequence of railway expansion and other causes. It has been a very conspicuous factor in the decay of many old towns. As an illustration, we might take the case of Mirzapur. As pointed out before, this town on account of its position on the Ganges, was an important trade mart. It reached the height of its prosperity when, in the Lancashire cotton famine of the sixties, all the cotton exports of north and central India had to pass through Mirzapur down the Ganges. But soon after, the construction of railway lines along the Ganges deprived the river traffic of a great deal of its importance; and Mirzapur began rapidly to decay. To take another example, Saugor, before the railway period, was an important trade centre, and the chief depot for the distribution of salt throughout the Narmada Valley and the Central India Agency; but with a change in the trade route, Saugor rapidly decayed. Railways are not the only agencies responsible for the change of trade routes. There are the vagaries of the river courses to be taken into account. Myingyan, a flourishing town in Upper Burma, was entirely ruined because the Irrawaddy changed its stream. Many old towns in Lower Bengal were thus ruined on account of the changes in the course of the Ganges. Such a diversion of trade happens in cases of local trading centres left aside by railways; but it is not necessary that they be entirely left aside. Even an advantage of a few years in the building of the railway to another town is enough to divert the old channels of trade. Thus Cawnpore gained a lead on Lucknow in the grain and hides trade of

Oudh merely because the railway to Cawnpore was built before that to Lucknow.[1]

The decay of handicrafts is an even more potent cause than the diversion of trade channels. As pointed out above, the industries of old Indian towns were in the main luxury or art industries ; and these depended for their prosperity on the demand from the nobles and the courts. With the abolition of the courts the demand for the greater part vanished. Of course, the industries did not collapse at once ; they were old established handicrafts, and the Indian aristocracy for a time demanded many of these goods ; similarly there was an active European demand for artistic knick-knacks, which, though it debased the industry from the standpoint of art, still helped the craftsmen to struggle on. But, with the influx of education and the creation of the Indian 'bourgeoisie', the demand slowly died, and the handicrafts, threatened with cheap European competition, became increasingly unimportant. The craftsmen slowly gave up their old occupations, and had to resort to agriculture or any other occupations in which they found an opening. Such a decay of handicrafts and the consequent decrease of population was the fate of a great number of old towns. The process was naturally a slow one, but it was well marked ; and it was only in towns which could find alternative occupations and start new industries that the population did not suffer a loss. A very important case of such a recovery is afforded by Dacca. After the abolition of the court of the Nawabs, Dacca, with its famous muslin industry and other handicrafts, suffered a rapid decline ; this decline was continuous till 1870. But at about this time the cultivation of jute became popular in East Bengal and numerous jute presses were established round Dacca. With this added trade and industry Dacca regained its importance, and has been increasing steadily during the last fifty years. At Amritsar, the decay of the shawl industry was compensated for by the establishment of a flourishing carpet industry in the nineties. Unfortunately the carpet industry was not on a sound basis, and therefore Amritsar got another setback during the next decade. Contrasted with the case of Dacca is the case of Murshidabad —a city which in Clive's time was considered superior to London,

[1] Hoey op. cit.

but which, since the time of the annexation, has been steadily declining; or take Malda, with its old silk industry, or Santipur, with its muslin industry, whose products were inferior only to Dacca. These cases are cited only from Bengal, but like instances could be produced from any part of India. For the story is the same whether at Mandalay in Burma or at Paithan in the Deccan.

The diversion of trade routes and the decay of handicrafts are causes which are actively leading to a decline in the town population, but epidemics and insanitary housing conditions also act against the growth of towns. Epidemics, like famines in the opposite case, drive people away from the congested urban areas to the open country. It will be observed that the proportion of the urban population fell slightly during the first decade of this century, a phenomenon which is mainly to be attributed to the prevalence, in wide tracts of India, of an epidemic of plague. This was particularly virulent in the Deccan, the Central Provinces and Bihar. This epidemic killed large numbers of the urban population, and drove away larger numbers from the towns. But the effect, like that of famines, is of a somewhat temporary nature. For the population tends to return to the towns as soon as the epidemic has passed away.

Insanitary conditions and bad housing accommodation affect the growth of towns somewhat differently. The movement, if there tends to be one, from the country to the town, is discouraged by these factors. The insanitary conditions of the Calcutta 'bustis' and the Bombay 'chawls' are well known, and there is no doubt that bad housing conditions tend to keep away a good deal of the potential labour supply from these towns. This is conclusively proved by the fact that among Calcutta jute mills the labour difficulty, of which complaints are made so generally, has never been felt by those mills which provide adequate and sanitary lines for their coolies.

There is yet another factor. In some parts of India in the old days the tendency to concentrate in walled towns was very marked. This was mostly because walled towns afforded better protection against the bands of robbers which during certain periods were common in India. Such open robbery having become somewhat rare during the last hundred years, walled towns no longer served any useful purpose; and for people following an agricultural occupation it was inconvenient to stay in them. There was, therefore, during the seventies a

distinct tendency in many parts of India, notably the Central Provinces, towards a disintegration of the population of these small towns.

So much for the simple process of the growth of towns; we may now consider further the question of the growth of cities at the expense of the smaller towns. The statistics do not give any indication of a movement of this kind. But though this is the case there are many references in the different census reports, which show that the smaller towns are either stagnant or decadent and the bigger towns increasing. On the other hand, some census superintendents are of opinion that the smaller towns show the bigger increases. There are certain reasons which would lead one to believe that there should be a greater increase in the big cities than in the smaller towns. Firstly, there is certainly at present a process going on in India of concentration of trade in the bigger centres. This is to be seen in the case of a centre like Delhi; trade has greater facilities and better markets here, and is thus attracted from the surrounding small towns. As opposed to this tendency of concentration there is also the one, in the railway days, of diffusion. *The Punjab Census Report* (1911) has the following: 'Almost every railway station is a centre for export. Grain, cotton, etc., are drawn to these stations from the adjoining tracts, and the agents of exporting firms arrange to buy the produce as it reaches there, thus obviating the necessity for the producer to go to the trading centres in order to dispose of his surplus produce.' The effect of this is a decay in these local trading centres. Thus the decay of Ferozpur, during the last decade of the nineteenth century, was attributed to loss of trade owing to the produce of the villages, both far and near, which used formerly to be brought to the city, being drawn away by the opening of petty agencies of European and Indian firms at most of the stations on the railway lines.[1] Both these processes, that of concentration of trade and also that of diffusion, hit the smaller towns and trading centres most. Again, the rise in the rate of wages in the smaller towns had not, during the last thirty years, kept up with the rise in prices as much as it had in the bigger industrial centres. This lagging behind of the wage rate sets up a movement of the artisan population from the smaller to the larger towns.

[1] *Punjab Census Report* (1901).

There is yet another factor, and that is the centralization of administration. Under the present system, all the population subsisting by administration of justice, revenue, etc., the legal profession, and others, have to congregate in the district headquarters. In almost all other countries, this would mean a very insignificant proportion of the urban population ; but, in a country like India, it is quite substantial. So generally, the district headquarters grow at the expense of the other centres in the district. For example, the decrease in the population of both Ellichpur and Wasim in Berar was attributed to the headquarters of the districts having been shifted to other towns. On a larger scale, a considerable part of the increase in the population of Dacca during 1901-11 was due to the creation of the new province of Eastern Bengal and Assam, of which Dacca was made the capital. There are, then, certain influences making for a larger increase in the bigger towns than in the smaller ones ; but these seem to have been nullified by the effects of a slow decay in a large number of big towns.

A general consideration of these somewhat varied influences might be supplemented by an examination of the progress of a few typical cities in India. The examples here have been taken entirely from the class of big cities. The increases in the two great cities of India, Calcutta and Bombay, have been considerable but they have not been remarkable, nor have they been steady. Beginning from the top, the first remarkable increase that we come across in the class of big cities is in Rangoon.

The population of Rangoon in 1872 was actually under one lakh ; in 1911 it had reached two lakhs and ninety-three thousand, an increase in forty years of one lakh and ninety-four thousand. Rangoon had not acquired much importance in 1872 ; it was only after the annexation of Upper Burma and the growth of the export trade in rice that Rangoon as a port began to make rapid strides. Its progress has been continuous. Burma today exports more than three-fourths of the total rice exports of India and almost the whole of this export is through Rangoon. Latterly two industries, that of rice-milling and timber-sawing, have been started at Rangoon, but these industries are comparatively new, and employ only a small proportion of the labouring population. The other interesting feature about the population of Rangoon is that it is largely made up of immigrant coolie labour from

India, and Rangoon depends for its growth on a continued supply of Indian labour.

A similar case to Rangoon is Karachi. Karachi stands in the same relation to the Indian wheat export trade as Rangoon to the Burma rice trade. The population of Karachi has more than doubled during the last forty years. This has been due entirely to the rise in the importance of Karachi as a port. It is noteworthy that Karachi possesses almost no industries of any importance. The growth of the population depends entirely on the trade carried on by the port. The class illustrated by Rangoon and Karachi is perhaps the most important class of our big cities. It consists of ports, chiefly depending for their prosperity on their export trade. Within this class, even Calcutta and Bombay may be partly placed. But, of course, ports in India are few in number.

The next class to be considered will be that of the industrial cities. The best instance of this is Ahmedabad. Ahmedabad is an old city, famous for its handicrafts, and the skill of its artisans. But its modern prosperity is due to the factory industry. It has increased its population by nearly a lakh during the last forty years. The trade of Ahmedabad, except in cotton and cotton goods, is not very considerable, and it is unique among Indian cities in the fact that more than half of its population is engaged in industry. The main industry is, of course, cotton spinning and weaving, for which Ahmedabad has peculiar facilities, but it is now attracting some new industries, notably tanning and leather work.

But it must be admitted that the case of Ahmedabad is an exceptional one. There is no other instance of such a purely industrial town among Indian cities. Otherwise Madura and Cawnpore may be taken as representatives of the industrial towns in India. Both began their periods of prosperity as important trading centres. Cawnpore soon became the seat of the growing leather industry, and subsequently the cotton industry and the woollen industry also came to be established there. The town had been increasing steadily, but was rather hard hit by the plague during the first decade of this century. But it is at present perhaps the most important manufacturing centre in north India. In spite of this, Cawnpore remains, in a large measure, a trading town. Madura has a double history. Up to the beginning of the twentieth century it was very largely a trading

centre in oil-seeds, cotton and grain, its prosperity being largely due to the development of the Periyar irrigation scheme. But during the first decade of this century, industries, especially handloom weaving and dyeing, have absorbed a very large share of the population of Madura.

Next comes the very large class of towns which are almost entirely dependent for their prosperity on trade. In these are included the great internal trade depots like Lahore and Delhi. But Delhi may be considered as having a considerable number engaged in industry. It is not so with Lahore, and many other Punjab towns, like Multan and Rawalpindi. Multan has grown in modern times mainly because of its favourable position on the trade route to Karachi, and the increase in general export trade. There is nothing remarkable in this class of towns. They are all fairly big railway centres and large depots of grain, cotton, jute or oil-seeds. From a very large number, a few typical ones are Bareilly and Meerut in the United Provinces, Narayanganj in East Bengal, Nagpur in the Central Provinces and Hubli in the Bombay Presidency—all centres for the trade in raw agricultural produce.

On the other hand there is the not inconsiderable class of decaying towns. Patna, one of the oldest cities in India, is a rapidly decaying town. The decay is due to the loss both of its old handicrafts and of its river-borne trade, added to which is the dire calamity of plague. Lucknow, the beginnings of whose decay have already been described, is another example. These belong to the class of dynastic towns. Next come the sacred towns, and most of these have also fared badly. Gaya is declining rapidly. Allahabad is stationary in spite of its position as the capital of the United Provinces. Benares decreased in population by 19,000 from 1891 to 1911. Muttra also is rapidly losing its important position. It must not be imagined that the decline is due to any wave of the agnostic spirit in India; the pilgrims still flock in their usual numbers, especially as the improved communications have made pilgrimage much less risky and also cheaper. But the demand from the pilgrims for the products of the old industries of these towns has decreased considerably. Thus the main reason for the decline in the population of the towns which were seats of courts, and of the towns which were places of pilgrimage, is the same. It is the decline of the old handicrafts. This is shown

by the condition of towns like Baroda, Indore and many famous cities of Rajputana, which have steadily declined, in spite of the court being still in existence.

When, therefore, the statistics are considered, we find the effects of the two opposite tendencies almost evenly balanced. The rate of growth in the growing towns is just enough to keep up the percentage of the urban population, in spite of a large class of stagnating or decaying towns. But this phenomenon of the decay of old towns is not peculiar to India. We see the same thing happening in England, when the industrial centre was shifted from the south to the north, and the old industrial towns like Norwich or Bristol lost their importance. But in England and most other countries, the growth of new industrial centres far outweighed the decay of the old ones.

The fact is, then, greatly emphasized by this, that in India the growth of industries has been taking place very slowly. Whatever little growth in towns there has been is due much more to the growth of commerce than of industry. The industrial city, with the exception of a few like Ahmedabad and Jamshedpur or a few jute towns on the Hooghly, is almost non-existent in India ; and even in the mixed types, i.e. partly trading and partly manufacturing towns, the factor of trade far outweighs the factor of industry. Again there is a complete absence from India of any big town aggregates or what Professor Geddes calls 'conurbations'. The only town aggregate at all resembling the big town groups in Western countries is the group of jute towns on the Hooghly, taken together with Calcutta. There might also grow up such a group in the coal and iron belt in Bihar. In this connexion it may be observed that in most countries the largest town aggregates have been round the coal and iron belts.

The development of modern industry in India has been, then, very slow. This is conclusively shown by the fact that the growth of modern trade and industry has only just been able to counterbalance the decay due to the decline of handicrafts.

Variations in Urban Population at each Census

Year of Census	1872	1881	1891	1901	1911	1921
Total population ...	206,162,360	253,896,330	287,314,617	294,361,056	315,156,396	316,017,751[1]
Urban population ...	18,082,484	23,935,382	27,254,611	29,183,528	29,748,228	32,418,776
Urban population classification						
Towns of 100,000 and over	4,321,917	5,295,097	6,170,480	6,634,749	7,075,782	8,211,704
50,000 to 100,000 ...	1,856,297	2,411,470	2,710,259	2,930,565	3,010,281	3,517,749
20,000 to 50,000 ...	3,338,490	4,470,995	5,099,770	5,473,989	5,545,820	5,925,675
10,000 to 20,000 ...	3,634,373	4,842,072	5,410,063	5,975,180	6,163,954	6,209,583
5,000 to 10,000 ...	3,587,372	5,029,457	5,762,985	5,963,471	5,944,503	6,223,011
Below 5,000 ...	1,344,035	1,886,291	2,101,054	2,175,574	2,007,888	2,331,054
Population added, at each census, owing to the enumeration of tracts omitted at previous census	...	33,139,081	5,713,902	2,672,077	1,793,365	86,633

[1] Falls short of total population as the urban classification statistics were not available for some tracts.

XI

THE TRANSITION IN AGRICULTURE

THE division between different periods adopted in the previous chapters has been the division made by seasonal calamities. Famines, indeed, play so important a part in the agricultural and industrial economy of India that this division may on that account be well justified. It has been remarked above that at the very beginning of the period under review, the character of the Indian famine was changing radically; it is likewise to be observed that the importance of the famines during the whole of this period was slowly diminishing. Thus if we review famines from the 1861 famine in the North-West Provinces and the 1869 Rajputana famine onwards, we shall see that already the effects were less felt in 1876-8, and that even the succession of two severe famines did not produce as much suffering and mortality at the end of the century as in 1876-8. To turn to a more recent period, the recovery from the 1907-8 famine was very quick; and the effects of even so severe a failure of rainfall as that in 1918 were comparatively little felt. From these facts an obvious conclusion has often been drawn, that the agricultural classes today are more prosperous than they were, say seventy years ago. This, of course, does not necessarily follow. The effects of famines have not been so severely felt largely on account of the better means of transporting food-grains from one part of the country to the other and because of the greater efficiency in the conduct of relief operations. Even if the prosperity of those classes of cultivators, who had more to sell than to buy, increased on account of the rise in prices, it is doubtful how far the large class of agriculturists, who owned only a small plot and had to supplement their earnings largely by extra work, had improved their position. The real wages of agricultural labour are said to have increased since the beginning of this century,[1] but it is not clear how far they had been protected against bad seasons by this increase. It seems likely that it was not so much a material

[1] K. L. Datta, *Report of the Enquiry into the Rise of Prices in India*, vol. I, pp. 169-70 (1914). As against this see Keatinge, *Agricultural Progress*, chap. viii, who says that real wages have remained almost unchanged since the beginning of the twentieth century.

improvement in the condition of the agriculturist as the better means of transport that was responsible for lessening, in so large a measure, the effects of famines.

It was this same ease of communication that was bringing about another important change in Indian agriculture. This change might be called, for want of a better term, the commercialization of agriculture. The basis on which agriculture was conducted in India was being slowly changed. Broadly speaking, the change might be described as a change from cultivation for home consumption to cultivation for the market. Every change in India during this period took place slowly and a large part of the cultivation in India is, even today, carried on almost entirely for home consumption; but almost everywhere, where specialized crops or even the superior kinds of cereals are grown, cultivation for the market is largely practised. In a self-sufficient village economy where payment in kind is the rule and most of the services are paid for at harvest time, it is natural that cultivation should be entirely for the production of food supply for the cultivator's family. The spread of transport facilities, when it began to break down the compact character of the village, affected also its agricultural economy. The change was seen in a gradual extension of the area of some industrial crops under cultivation and a specialization in crops grown in different districts. Export trade increased and internal trade also to a very great extent. The growth in the area irrigated also helped this movement. But it is not so much to the increase in the area under industrial crops that we look for signs of this change, as to the changes in the methods of marketing the crop. It is the basis of cultivation rather than the proportion under different crops that has changed. The cultivator today does not try to grow every kind of agricultural produce that he may require at home, as he had to do when the means of communication were deficient. He is more ready now to resort to the market for his requirements and also for the disposal of his surplus produce. This market for agricultural produce of all kinds might, indeed, be said to have been non-existent before the middle of the last century. The first impetus towards this tendency of commercialization was noticed when money economy was introduced into the village in the shape of cash assessments; but the effect of this could not go far until communications were improved. Then slowly rents in kind went out of

fashion and cash rentals were introduced. The effect of this, combined with the assessments, was to compel the cultivator to sell a part of his produce immediately after harvest ; and as, generally, the interest of the moneylender became due also at about the same time the part of the produce that he disposed of at this time was a large part of his total crop. In many cases the cultivator had to buy later on in the year, from his moneylender, part of the crop he had sold him at harvest time (i.e. in those cases where this crop was a food-crop). Thus the ease of communications which made the exportation of agricultural produce out of the village possible, together with the introduction of money economy, brought about this movement towards a commercialization of Indian agriculture. Even when the cultivator grew largely for home consumption his produce came on the market just after the harvest, because of these peculiar circumstances. The commercialization of agriculture had progressed most in those tracts where the crops were largely grown for export out of the country. This was so in the Burma rice area, the Punjab wheat area, the jute area of Eastern Bengal and the Khandesh, Gujerat and Berar cotton tracts. Through the operations of exporters an efficient market organization for moving the crops quickly to the ports had come into existence. In the Berar cotton tracts there are very many centres at which, just after harvest, large purchases are made on behalf of exporters and various mill companies. Here the cotton is generally brought to the markets by the cultivators themselves and does not go through the hands of a very large number of middlemen. In the Burma rice trade, on the other hand, Mr Noel-Paton describes the market organization thus : 'In most cases paddy is taken over on the threshing floor by local traders, or small brokers or middlemen acting on behalf of the millers or speculators. The small local trader, known as the jungle broker, gets advances from traders or others at the railway station and goes round to the threshing floors buying at less than the railway station rate given him by his principal.'[1] Nearly all this rice was removed to Rangoon to be milled. In the cotton and jute tracts these market centres also attracted steam presses ; while in the Punjab and also in the United Provinces, where the raw agricultural products had not to be worked up further before being exported, almost every

[1] F. Noel-Paton, *Burma Rice* (1912).

railway station became a centre of export and attracted local traders and agents of exporters. The writer of the *Hyderabad Census Report* (1911) says with reference to the enormous expansion of the area under cotton in Marathwara, that 'when a country begins to produce the raw materials of manufacture in place of food-crops, it has started on the road to industrialization'. This statement cannot apply to India as a whole. For here there was no large displacement of food-crops. In some tracts, certainly, the food-crops were largely ousted by the industrial crops, but in others they gained in favour. There was to some extent a redistribution of the proportions of different crops grown in various parts of the country and particular crops were now more largely grown in those tracts to which they were most suited. The result of this process was not necessarily industrialization; indeed, it is doubtful how far such industrialization has taken place in India. But commercialization of agriculture undoubtedly did follow. A very large portion of the total crop now came into the market instead of being retained at home. Naturally, the movement was not marked in crops in which there was either a large internal or external trade, but even when, as in the case of the millet crops, the internal trade was not important, a large proportion still came into the market as a result of certain circumstances.

These circumstances were the payment of Government assessments and the interest of the moneylender. To pay these two dues the cultivators had to rush into the markets just after harvest, and to sell a large part of their produce at whatever price it fetched. Most of the poorer cultivators had to buy back after about six months part of the crop they had sold away at harvest time. The prices at harvest time were very low, but in six months' time they had risen to heights which were absolutely ruinous to the cultivator who now came into the market.[1] Indeed Mr Noel-Paton remarks that, for example, the Burmese moneylender's profits depended very largely on the certainty of this six-monthly rise in prices. The cultivator who now came into the market sank deeper and deeper in debt and a few years of this process were enough to ruin him entirely.

This curse of indebtedness was one of the greatest handicaps to Indian agriculture. In a previous chapter a few causes of this

[1] F. Noel-Paton, op. cit., also *Indian Wheat*, etc.

indebtedness have been discussed. The nucleus of the peasant's debt was generally inherited ; the force constantly acting towards augmenting this was the variations in the seasons. It was not only in the Deccan that the granting of rights of absolute proprietorship and the right of alienation of land to the peasant had resulted in a large increase in the peasant's debt. The same causes had produced an almost identical result in the Punjab.[1] Mr O'Dwyer, in a paper read before the Royal Society of Arts, shows the effects of the peasant being given absolute rights over his land.[2] By comparing the conditions in certain Rajputana States with those in British territory, he points out that in these states the cultivator was much less indebted on account of his not possessing absolute right over his land. Soon after the report of the Deccan Ryots Committee, this had been found to be the case almost all over India, and at the close of the nineteenth century legislation was being brought into force in many parts of India restricting the right of the cultivator to alienate his lands in many ways. The Deccan Agriculturists' Relief Act was extended with certain modifications to many other districts of the Bombay Presidency. The Deccan Act did not directly lay restriction on the transference of land ; but the new legislation, such as the provisions of the Central Provinces Tenancy Act (1898) restricting the right of transfer of *sir* (home-farm) land, or the Punjab Land Alienation Act (1900), did lay such restrictions. The Punjab Land Alienation Act made a difference between the transfer of land to a member of an agricultural tribe and transfer to a person who did not belong to an agricultural tribe ; the latter kind being forbidden. The immediate effect of any Act of this kind was a contraction of credit. For example, one of the first effects of the Deccan Agriculturists' Relief Act was that the moneylending business suffered and the smaller 'soucars' were impoverished.[3] This also meant that the cultivator did not get credit as freely as he did before the Act was passed. The Act in the Punjab and other places laying restrictions on the transfer of land had the same effect. These latter kinds of legislation had also the desired

[1] S. S. Thorburn, *Musalmans and Moneylenders* (1888).

[2] O'Dwyer, 'Agrarian Condtiions', etc., *Journal of the Society of Arts* (1899).

[3] *Papers Relating to the Deccan Agriculturists' Report Act*, 2 vols. (1875-96).

result of preventing transfers of land in large numbers. The Punjab Act has, indeed, been called the Magna Charta of the agriculturist. The relevant question here is whether these Acts checked the growth of indebtedness. They do not seem to have done so in any large measure. Where there was direct restriction on alienation of land by the peasant the Acts had the effect of lessening the number of such alienations. The various provisions giving discretionary powers to the magistrates to enter into the history of the debt checked the fraudulent practices of moneylenders. We are also told that moneylenders now required good security or a direct mortgage of the land, before they advanced substantial sums to the cultivators. Nevertheless, the legislation did not and could not prevent the growth of the indebtedness of the peasantry. It modified some of the worst features in the operations of agricultural credit in India, but with a very small holding and widely fluctuating seasons the peasant's necessity for credit remained as powerful as before. It was not, however, only during the adverse seasons that his debt increased. A period of prosperity also generally saw an increase in these debt-charges. The period of prosperity during the cotton boom combined with facile credit had made the Deccan cultivator hopelessly indebted.[1] The same effects of prosperity were witnessed in the Punjab from the beginning of this century.[2] In many places prosperity and indebtedness also went hand in hand with demoralizing habits. A period of prosperity has this effect because it makes credit easy to obtain. For prosperity means also a steady increase in rentals and land values ; a landowning cultivator finds his credit vastly expanded and he does not hesitate to draw upon it freely. The ruinous effect of this process is realized by him only when a period of adversity comes in. Against these effects of a facile credit and prosperity, a mere negative contraction of credit in certain directions was not very effective. As a matter of fact, in a few cases such restriction made the ultimate effects of credit on the peasant even more onerous than they were before. What was wanted and what alone could really cure the evil, was a positive modification of the terms on which credit was obtained and

[1] *Papers Relating to the Deccan Agriculturists' Relief Act*, 2 vols, (1875-96), chap. ii.

[2] M. L. Darling, 'Prosperity and Debt in the Punjab', *Indian Journal of Economics* (January 1921).

a salutary check on the purpose for which the cultivator sought credit. No amcunt of legislation could bring about this result and the only remedy that has been found successful, as yet, is the spread of a co-operative credit system and the diffusion among the cultivators of the co-operative spirit.

It is impossible to determine the extent of the dispossession of old peasants by moneylenders. The only guides here are the statistics of mortgages and the decrees of courts ; as guides these are imperfcet and the statistics compiled are in themselves very incomplete. The general reports seem to indicate that until the end of the last century the process was constantly on the incerase. The growth of population was an important factor. In the earlier part of the nineteenth century, when land was plentiful and labour scarce, the moneylender had no inducement to take over the possession of land. By 1860 this was no longer the case and land values began steadily to appreciate. So at about this date may also be put the beginning of the process of the transference of land from the peasant into the hands of the moneylender.

Government took steps at the beginning of the present century to check the rapidity of this process in those parts where the effects were most marked, e.g., the Central Provinces, the Punjab, Bundelkhand, etc. The dispcssession of these old proprietors still continues, though its rate has been checked by legislation. The effects of this process are certainly bad in India. In most parts of the country the money-lender is not an agriculturist, and even where the land passes into the hands of an agriculturist the mere transference does not, generally, make any difference to the system of cultivation. The cultivation, in most cases, is still carried on by the old cultivator, now paying a high rental instead of the old interest on his debt. The only difference effected by such a transfer is that the position of the actual cultivator of land becomes more precarious than before, and whatever incentive he might have possessed for cultivating well is entirely lost. For, this process does not mean in India, as it did in most other countries, a consolidation and an enlargement of the unit of cultivation ; it merely shows a somewhat altered distribution of the profits of cultivatoin. Even where there were large compact fields under single ownership they were generally divided into small plots and let out to a number of petty cultivators. If, then, the real unit of cultivation (which in

many parts of India differs widely from the average area owned by individual landowners) is to remain a small holding, it must be admitted that a cultivation carried on by the peasant proprietors is vastly preferable to one carried on by cultivating tenants. What made it worse was that in large parts of the country long-term leases were not liked by the landowners and here a larger and larger proportion of tenants was being made merely tenants-at-will.[1] In the absence of a class of enterprising landowners cultivating highly on a large scale, a movement which thus converted peasant proprietors into cultivating tenants was to be deplored. The large class of landless labourers in India was being recruited from the class of tenants-at-will.

It has been said that the increase of indebtedness was due largely to the very small size of the holding. This leads us to the question, now very prominent in India, of the sub-division and fragmentation of land. It has been said over and over again that the size of the average holding in India today is uneconomic. The economic holding has been defined by the Baroda Committee as a holding which can be adequately cultivated by the joint labour of an ordinary cultivating family. It is easy to pick holes in this definition. But, as long as this unit of the family is, more or less, *the* unit of labour available to each cultivator for the cultivation of his plot, the definition seems to be reasonable. Unfortunately the average holding in many parts of India could not profitably employ all the labour of the cultivator's family. The result naturally expected is that a part of this labour would be drawn to other pursuits and thus supplement the earnings of the family. This is so in India wherever such alternative occupations are easily to be found;[2] but in many parts of the country there is no alternative occupation except agricultural labour. The wages of this kind of agricultural labour are—except at harvest time[3]—so extremely low that the addition thus made to the family earnings was very small. The result is that all the labour of the family is spent on the small holding; and yet the total profits from this cultivation are hardly

[1] N. G. Gangoly, *The Grievances of the Tenantry of Agra* (1915).

[2] Dr H. H. Mann, *Land and Labour in a Deccan Village* (No. 1). A large part of the labour of Pimpla Sondagar (the village described) was attracted by workshops, etc., at Kirkee which happened to be near.

[3] But at harvest the cultivator himself would require all the labour of his family.

sufficient to support the cultivator and his family. There was another bad feature of his holding; it was not only small but it was scattered. A holding of, say, five acres would be held in numerous strips scattered in small parts of the village.[1] This also contributed to uneconomic cultivation in another way; for, on account of this fragmentation, all the capital available to the cultivator could not be used in the most profitable way.

The Hindu law of inheritance, which provides for an equal division of the property of the father among all his sons, has been held responsible for this unfortunate movement of sub-division and fragmentation. It will be seen that the movement towards sub-division is really the most harmful. For, even when a consolidation of scattered holdings takes place in the village at any particular time, if the process of sub-division is operating continuously, the evils of fragmentation will re-appear after a certain period. This has been generally recognized and most of the legislation recommended for remedying these evils aims at the prevention of this process of sub-division. Even though it may be admitted that the Hindu law of inheritance has contributed largely towards this evil, the main cause must be sought somewhere else. It may be noticed that in prescribing an equal division of the property among all sons the Hindu law is not peculiar. Somewhat similar laws hold good in certain Continental countries today. Here also there is an almost similar division of the land among sons provided for; but it has not been found in these countries that sub-division has been carried to the same extent as in India. Take the case of Belgium. This is well known to be a country of small holdings. Here excessive sub-division has been prevented by the practice of holding the property jointly amongst the sons instead of dividing it, while one of them farms it and pays rent for it to the others. 'But for this practice,' says Mr Rowntree, 'the sub-division of property might soon become excessive and unprofitable.'[2] That no such practice is current in India cannot be explained merely

[1] For the extent of this sub-division and fragmentation see the two surveys by Dr Mann: also G. Keatinge, *Agricultural Progress in Western India*, Appendix I; and H. S. Jevons, *Consolidation of Agricultural Holdings in the United Provinces*.

[2] R. Seebohm Rowntree, *Land and Labour, Lessons from Belgium*, chap. iv., p. 47.

by the conservatism or obstinacy of the Indian peasant. As pointed out above, the peasant is quite willing to supplement his earnings by extra work when he can find it. But when no such alternative occupation is available he cannot be blamed if he does not choose to become an entirely landless labourer and insists on his share of the parental holding. Indeed, this is the really important point. But then we are confronted with the cry from many tracts of a scarcity of agricultural labour. Now in the first place, this scarcity is complained of only at harvest time. This is partly due to the fact that the extra labour of the small cultivator and his family, which is largely available at other times, is not available at the harvest. Mr Keatinge puts forward three other reasons for this scarcity.[1] First, the increase in the area under cultivation. Secondly, the growth of city industries. Whether the second reason did really count very much, if we consider India as a whole, must be doubted. In some tracts the supply of labour was affected by the stream of emigration. This was so, especially, in certain parts of the Madras Presidency, from which a considerable supply of labour went to Ceylon and the Straits Settlements. Here social causes played quite an important part in inducing the labourer to emigrate. There is a third reason which Mr Keatinge suggests and which is very important. This is that the substantial farmer nowadays has given up the practice of working in the fields with his family, and works the fields entirely by hired labour, as soon as he can afford it. If this statement held good of the whole of India and if such a movement was widespread, then this alone would account for a very great deal of the scarcity of agricultural labour. However, the existence of a scarcity of agricultural labour at harvest time would not disprove the contention that there were more people working on the land than the land could properly support.

Briefly, three important changes have been pointed out as taking place in the agriculture of India. It cannot be too often emphasized that all these tendencies were operating very slowly; and again that it is impossible to ascertain the extent of their progress. These changes were firstly, a commercialization of agriculture—by itself quite a beneficial movement. For it brought about a slightly better distri-

[1] Keatinge, op. cit., chap. viii.

bution of the crops and increased the profits of cultivation; this was merely the result of the enormously better means of transport. The other two tendencies (i.e. the dispossession of the old proprietors and the excessive sub-division of land) were, however, affecting the ordinary cultivator adversely. The growth of population was an important factor in both these and the absence of a large industrial growth was also largely responsible. The large numbers retained on land affected adversely agricultural movement. Farming on a large scale would not be undertaken where high rentals ruled and the competition for small plots was very keen. For, as Mr Rowntree rightly points out, in countries where there is a large sub-division of land, its rents and prices are higher than elsewhere.[1] So it was more profitable for the landowner to let out land in small plots than to carry on cultivation on a large scale. How in another way it retarded the progress of improvements will be readily appreciated when we consider that the introduction of machinery in agriculture has been in most countries due to the dearness of agricultural labour.

[1] Rowntree, op. cit., chap. iv.

XII

THE COUNTRY ARTISAN

In the old economic structure of India, the position of the country artisan was definitely fixed. Urban handicrafts, though greatly advanced in industrial organization, were numerically unimportant. Thus in old India, the country artisan was numerically by far the most important industrial worker. With the passage of years, this dominant position of the artisan has been lost ; but even today, the large bulk of the industrial population of India is formed of country artisans. If the decay in numbers has not been considerable, the loss of status and the old fixed position seems, on the other hand, to have been great, and the rural artisan population today is in a fluid state.

All artisans in the village, however, as pointed out in the first chapter, have not such a fixed position. There was one class of artisans who were village servants and another independent class. The following quotation brings out the difference in status of the two groups very clearly : 'In villages there is a very wide distinction between the village menial and the independent artisan. The carpenter, the blacksmith, the pottter, the scavenger—in villages where women are secluded, the washerman—all classes, in fact whose services are required in husbandry or daily domestic life—are paid not by the job but by customary dues consisting of a fixed share of the produce of the fields ; and the service they are bound to perform is measured by kind, not by quantity. . . Those artisans, however, whose services are only occasionally required, such as the weaver, the oilman and the dyer, are paid by the job ; not usually indeed by cash, but either in grain or by being allowed to retain a fixed share of the raw material which their employers provide for them to work upon.'[1] This brings out clearly the difference in status between the two groups of artisans. But this difference in status in the village community did not necessarily mean a difference in economic position. The difference between the two groups lay not so much in their economic condition

[1] *Report of the Census of the Punjab*, p. 307 (1881).

as in the mode of payment and the times of payment for their services. There was an obvious advantage to the former group, in that their income was a fixed and a steady one, but it is doubtful how far this was a real advantage. It is true that, in case of a failure of the harvest, the village weaver or dyer would get no orders and would have to starve ; but the case of the menial classes was not much better, for the failure of a harvest would very considerably reduce their share of the produce. In fact, the distinction between the two groups was made merely for the sake of convenience, and the prosperity of all the village artisans depended intimately on the prosperity of the cultivators. The fortunes of the whole village depended on the one important fact—the nature of the agricultural season.

While all the artisans were not included in the village servant group, the village servant group itself was not composed only of artisans. There was also a combination of occupations in some cases, so that it was difficult to say who was a pure artisan. Take the *mahar* of the Maratha country. His position was that of the village watchman ; as such, he had perhaps a small plot of land, but he mostly lived on the village dues, and was one of the first recruits to the landless labour class. He had apparently none of the characteristics of an artisan ; yet over large tracts the *mahar* was also a weaver of coarse cloth. The potter was a true artisan, but because in many parts of the country his craft necessitated his keeping a donkey, he also became the general carrier for the village ; the leather worker, again, was often found to be partly a day-labourer. In spite of these difficulties three distinct groups can be made in the village population outside agriculturists pure and simple. The highest stratum among them, socially and economically, was composed of the priest and the accountant ; next came the artisan group, comprising chiefly the blacksmith, the carpenter, the oilman, the weaver, the potter and the shoemaker. Lastly came village servants, such as watchmen, scavengers, etc., who formed the unskilled labour class—their small plots of land, wherever they possessed them, being insufficient for their needs. They were mostly labourers, though they occasionally combined this with occupations like coarse weaving, basket-making or mat-making.

The changes which have come over this structure during this period of more than half a century do not appear to have been enormous,

Most of the old artisans today are paid dues;[1] the payments for the jobs today are still mostly in kind. The village today possesses the same equipment of artisans as before. The change then, whatever its nature or extent, has not been revolutionary. But the direction of the change is definite. The tendency has not been towards the abolition of the dues and services outright; but the customary dues are now playing a much less important part in the income of the artisan than they used to. The same holds good as regards the plot of land that the hereditary artisan held. Its importance, too, has diminished. Again the artisan has become today more ready to migrate. All these are signs of a dissolution of the bonds which once held the community close together. The slow decay in importance of the 'panchayat'—the assembly of village elders—had prepared the ground a good deal for the loosening of these bonds; but, with easy communications and the possibility of getting, outside the village, things which before this time had to be got in the village itself, the necessity of keeping all the artisans in the village was less felt. This did not mean that their services were at once dispensed with; but it materially helped the movement towards payment of the artisans for a job done rather than for a yearly service. The share of the harvest slowly sank in importance, and payment by jobs began largely to take its place. The transition is not complete yet. Ease of communications also contributed to the process of at least a partial movement towards concentration of certain artisans in the larger villages and towns. For now that a commodity, for whose supply the villager could afford to wait for the weekly market, could be brought to the village from outside, the presence of the artisan himself was not required on the spot. The two factors, then, that governed this movement towards a partial concentration of artisans were (1) the urgency of the peasant's requirements, (2) facility of carriage. On both these counts, the presence of the blacksmith and the carpenter was required in the village. Either of them might be required to repair an agricultural implement at any moment. The potter's wares again could not be brought from a distance, as they were extremely fragile. The leather-worker's presence was especially

[1] 'The carpenter, the blacksmith, the washerman, the barber, the potter, etc., still exist as village servants with recognized duties and remuneration.' T. Marten, *Report of the Census of the Central Provinces* (1911).

necessary in those parts in which well-irrigation and leather-buckets were common. Of all these artisans, the weaver was least required from this point of view. The demand for cloth could be put off for the time being, and the weaver's products could also be easily carried from a distant market. Thus we find the weaver the first among the class of artisans who showed any signs of concentration in bigger centres. The dyer was in the same boat ; in fact it was not uncommon for the weaver to be a dyer also. The goldsmith is another case in point. Except in tracts where they were also the village money-lenders, this tendency towards concentration is specially marked in the case of goldsmiths.[1]

Apart from this tendency towards concentration of artisans as a result of easier communications, there were two others which were bringing about a change in the above class of artisans. Both were manifest in all those cases where the industry was in a depressed condition on account of foreign competition or other reasons. These tendencies were for the artisan, driven out of his occupation, to join the ranks of the day-labourer, or to migrate to towns in search of employment. The extent of this migration to towns was, however, very limited. The ranks of day-labourers were most naturally recruited from the lowest strata of village menials, but very many of the artisan classes were also driven into them. Lastly, there were also many artisans, who, as soon as they had slightly improved their position, gave up their hereditary occupations and took to agriculture. This was partly the result of certain social forces working in the community. Such were the directions which the artisans who were thrown out of their occupations took. As regards those who kept their hereditary occupation, there was little change in their position. Their organization, or rather the lack of it, and their methods of working, were yet unchanged ; and if in places their dues had dwindled, they were still paid by the job, in kind, and their income remained almost stationary. Only those, who began to be concentrated in the bigger villages, improved the organization of their industry during the process. The organization and the economic position of the village

[1] *The Punjab Census Report* for 1901 mentions that on account of the uncertainty in the value of precious metal, which is unfavourable to the goldsmith in the smaller villages, there is a tendency for the wealthier goldsmiths, to migrate to towns situated on railway lines.

industry were then, during this period, very little changed. The variations in the fortunes of individual groups were, on the other hand, sometimes violent. It is, therefore, necessary to examine the condition of a few prominent classes of artisans separately.

The blacksmith and the carpenter may be considered first. There was a great similarity between these two groups of artisans, and in many parts of India their occupations were interchangeable. They were both essential for agricultural purposes; for their chief work was the preparation and repair of agricultural implements. The work of the village blacksmith had always been reported to be crude, and one of the difficulties in the introduction of improved implements had been his inability to repair them. The only articles, other than agricultural implements that he made, were certain articles of domestic use and tools for other artisans. The position of the village blacksmith was not much affected by any outside factors. He had never produced a great deal of original work and had chiefly confined himself to repairs, for which the demand was pretty steady. On the other hand the demand for the village blacksmith was not an increasing one either, whereas in the towns industries requiring the services of blacksmith were increasing. For example, there was the development of cutlery trades in north India, and the growth of engineering workshops and iron foundries almost all over India.[1] It is not clear whether there was any movement of the village blacksmith to the towns to satisfy this demand, but in any case it could not have been considerable. Whenever he did go to the towns, he definitely improved his position. The blacksmith may be said to have been more or less in a stationary condition throughout the period, except the urban blacksmith, who improved his position. Naturally, however, with other village artisans, he was beginning to work more and more for the job. It must at the same time be pointed out that the demand for his services was not increasing, and any increase in the number of village blacksmiths would have to be met by the flow of a certain proportion to other occupations.

The carpenter held a similar position in the village community. But he did less repair and more original work than the blacksmith.

[1] *Monographs on Iron and Steel Industries in Bengal, United Provinces and the Punjab.*

Here his position became worse. The introduction of the iron cane-crushing press, for example, undermined very greatly his position in the sugarcane-growing tracts. The same may be said of the introduction of the iron plough; but as this movement was not very general, the effect cannot have been widely felt. Wherever, indeed, improved machinery was coming into use in agricultural operations, the position of the carpenter was becoming less secure. Thus the *Bengal Census Report* for 1901 puts carpenters among the class of rapidly decaying village artisans. If the village carpenter migrated to the towns, his chances were quite good. The general activity in the building trades, in coach and carriage making and in the small furniture industries in the towns was creating quite a brisk demand for carpenters.[1] External competition with the carpenter was not direct but rather indirect. Thus while in certain tracts he was rapidly losing ground, in others his position was stationary. But in the towns both blacksmiths and carpenters had a good chance of improving their position. It must be remembered in both these cases that the extent of the town industry was strictly limited.

The potter was perhaps the poorest of the artisan group. The wares he made were the cheapest of all the products of village industry. His working capital was very small. The potter's was a decaying class of village artisans, and everywhere the numbers in the industry were decreasing.[2] The external forces making for a decline in this industry were the competition with the potter's wares of the products of the Indian brass and copperware industry and the imported cheap enamelled ware. There was a small pottery factory industry in India but its products were greatly superior and did not compete with the village potter. The competition of the brass and copperware industry affected the potter in his better class of customers. The substantial cultivator was rapidly giving up the use of earthen vessels for domestic use, and taking to brass and copper wares instead. It is doubtful, however, how far the enamelled iron ware had entered the villages. Yet the demand of the poorer classes remained steady. For the potter there was no alternative to migration to the towns, as there was for

[1] A. C. Chatterjee, *Notes on Industries in the United Provinces*, chap. iii (1908).

[2] Bombay, *Monograph on Pottery and Glasswork*. C. E. Low, *Report on the Industrial Survey of the Central Provinces and Berar*, chap. iv. (1910). Also Chatterjee, op. cit., chap. xiv.

the carpenter or the blacksmith, and a potter thrown out of his hereditary occupation had to take to ordinary agricultural labour.

The village tanner was perhaps the hardest hit of all the village artisans. His position began rapidly to deteriorate after the extraordinary rise in the world prices of raw hides and skins. The fact that in many parts the hides of dead cattle were his perquisite did not help him much. Wherever he had to buy his raw materials in the village, his position was most unfortunate. For here the agent of the exporter or of the city tanneries, e.g., from Cawnpore, Bombay or Ahmedabad, was easily able to outbid him. The case of the tanner showed most clearly that the bonds of custom were not strong enough to withstand economic forces. As long as the hides had not acquired a substantial value, people gave them away as perquisites. But towards the beginning of the twentieth century, as for example in the Central Provinces, they began violently to dispute this right to dead cattle. On this Mr Marten remarks : 'That the communal system is gradually giving way before the growth of individualism is shown by the change in the view of the cultivators towards the question of the hides of dead animals which used to be the perquisite of the *mahar* and *chamar* communities.'[1] There was a similar instance in the Madras Presidency. 'Here the *madigas* (tanners) are attached to one or two families of ryots and are entitled to the dead animals of the houses.' But 'of late years there is a tendency observable among the *madigas* to poach on each other's monopoly and among the ryots themselves to dispense with the services of the family *madigas* and to resort to the open market for their necessaries. In such cases ryots demand payment from the *madigas* for the skins of their dead animals.'[2] These instances show that the bond of custom was only slight. The dues were paid and the services rendered so long as they were not irksome or expensive. This great increase in the prices of raw hides and skins reduced the country tanner to a very bad condition, and large numbers of his community were driven to agricultural labour, while a few were absorbed by the urban tanning industry. The decline of the village tanner was perhaps the most remarkable of all.

The oilman was not a village servant ; he was to be found through-

[1] *Report of the Census of the Central Provinces* (1911).
[2] Chatterton, Monograph, *Leather and Tanning*, Madras.

out India. As in almost all village industries, the cultivator gave the oilman the raw materials, in this case the oil-seeds and had the oil crushed by him. The two most important uses of oil in India were (1) as an illuminant, (2) for culinary purposes. The importation and the increasing use of mineral oil, therefore, made the position of the oilman very precarious. The use of kerosene for lighting purposes spread rapidly all over India, and thus took away from the oilman a very important part of his business. This decay may be said to have begun about 1880. The export of oil-seeds from India and the growth of an oil-pressing industry in the towns did not, however, greatly affect the position of the oilman. For the oil-seeds were supplied to him by each individual cultivator; and the urban industry was as yet very small in its extent, and had not even captured the urban markets completely; it could not have any effect, therefore, on the village oilman. The decrease in the number of oilman due to the introduction of kerosene must, however, have been considerable.

The country dyer was to be found in all villages of a fair size. Dyeing according to the old Indian method involved very complicated processes, and the dyer had to possess a considerable degree of skill. The competition of foreign goods was, in this case, an important factor. Aniline dyes were introduced into India about 1870. They were at first of a very fleeting quality and greatly inferior to the Indian dyes. But they had two important advantages. They were cheap and they were very easy to use. Their spread in India was therefore rapid, and by 1890 Indian dyes had almost completely gone out of use. The facility with which these dyes could be used had the effect of diminishing the demand for dyers. For people began to use the dyes themselves. But the real harm done to the dyer class in India by these imports was that they made the dyer's intimate knowledge of the processes of using the vegetable dyes worthless, and lowered the importance of the industry. Mr Fawcett says, 'the truth is that the introduction of cheap aniline and alizarin dyes into India has had the effect of throwing open the industry to all who care to take it up, as dyeing does not now require the special study and knowledge which was necessary when the native ingredients were used.'[1] This made the competition in the industry

[1] Monograph, *Dyes and Dyeing*, Bombay.

very keen and cut the profits very low; and the industry, ever since the introduction of foreign dyes, has declined rapidly. The production in mills of dyed yarn had also an adverse effect on the industry, as the weaver often bought the dyed yarn direct instead of getting the cloth dyed. The decay of the industry was further hastened by the fact that most of the dyers did not get the best even out of the aniline dyes they used. A small movement to organize the industry in factories was started in Madura and other places; but except in Madura it did not meet with much success.

The dyeing industry and its prosperity are very closely connected with the cotton hand-loom weaving industry. The hand-loom industry is the biggest and the most widely spread in India. It is not surprising, therefore, to find that it has received a great deal of attention of late years. At the same time cotton weaving is a good deal more localized than most other country industries. There are colonies of weavers in most towns and big villages of India. Nevertheless there are usually weavers to be found in most villages also. There is at present a difference of opinion as to whether the industry is a decaying one or not. There seems to be every reason to think that for many years after 1850 it did decay fairly rapidly, the decline being especially marked in the industry connected with the production of the finer kinds of goods. Dr Watson's remarks on the commercial importance of the different products of the Indian loom are interesting. He says: 'There are certain fabrics which will probably be best and most cheaply manufactured by hand . . . the native looms will continue to yield the embroideries, the shawls, the carpets for which they are already so famous.' But even more interesting are his remarks about the coarse cloths. The thicker materials are more durable as well as warm; of their commercial importance as a class evidence is afforded by the fact that during the recent cotton famine in England and consequent rise in price of raw material the native goods retained their position more firmly than the English ones did, though the price of the former rose to a greater extent than did the price of the European.'[1] Thus there were two classes of goods, the embroidered and other finer goods, in which the hand-loom had a peculiar advantage, and the coarser kinds, which ideally supplied the demands

[1] Watson, *Textile Manufactures, etc., of India* (1867).

of the common cultivators, where the cotton hand-loom industry of India held its own. Between these two was the large class of less fine goods and medium count goods in which the competition of the mill industry, whether Indian or foreign, was able to beat the hand-loom industry decisively. That is the whole history of the competition, but it cannot definitely be said during what period the industry decayed and when this process was stopped. Again the periods differed from one part of the country to another, for though Bengal was affected by foreign competition in the earlier part of the nineteenth century the Central Provinces industry was not touched till after the sixties. But it seems that though the periods might differ, a stage had been reached in the history of the hand-loom industry in all parts of India, at one time or another, when the mill industry had captured as great a portion of the market between the two limits as it could. At this point a sort of equilibrium was attained, and after this the decay of the hand-loom industry, if any, has been very slow. We will proceed to illustrate this proposition. There have been two attempts made in the Madras Presidency to measure statistically the variation in the hand-loom industry.[1] The Census Commissioner in 1891 came to the conclusion that there were no definite grounds for believing that the numbers in the industry were declining; while in 1911 Mr Chatterton decided that there had been no decrease in the number of weavers in the Presidency during the last forty years, i.e., 1871-1911. As regards Bombay, Mr Enthoven writes in 1895; 'Probably the number of persons relying for their livelihood solely on weaving had decreased considerably of late years;' but adds later on, in the case of hand-looms the effects of foreign competition have already been fully experienced; and concludes, 'there is no reason to hold that the industry will undergo any further considerable reduction.'[2] The same conclusion is more emphatically stated by Mr Mehta: 'It may be safe to assume that, if the hand-loom industry has not increased,

[1] *Reports on the Census of the Madras Presidency* (1891 and 1911). For a statistical examination of the whole question see Appendix I to the *Report of the Industrial Commission*. The conclusion is that since the beginning of this century there has been some decline in the number of coarse weavers, while the number of weavers producing the finer goods has, on the other hand, increased.

[2] Enthoven, Monograph, *Cotton Fabrics*, Bombay (1895).

it certainly cannot have decreased of late years.'[1] Mr Silberrad, writing about the United Provinces industry in 1898, said that the industry had certainly declined, but that during the last ten or twelve years the rate of decrease had considerably lessened.[2] In Bengal there were found to be clear indications of a decline, though here also a few of the very fine manufactures and the coarse cloth industry were holding their own.[3] While by another estimate, 'there was a continuous decline till about 1904, since when a new impetus had been given to the industry,'[4] a conclusion which is confirmed by an estimate for Eastern Bengal.[5] For the Punjab, in the latest survey, that by Mr Latifi, no attempt is made to estimate the rate of progress or decay,[6] but Mr Francis in 1884 thought that 'notwithstanding the competition of Manchester the Punjabi weaver's trade is rather extending than diminishing'.[7] About the industry in the same province in 1901 the *Census Report* says: 'The general opinion is that the manufacture of country cloth in the villages has not been seriously affected.' Only from the Central Provinces is a continuous and all-round decay reported.[8] As was to be expected, the evidence is certainly not uniform, but on the whole it lends support to the theory that at a certain stage a point of equilibrium was reached in the competition between the two industries. The evidence also indicate that, over large parts of the country, this point was reached towards the end of the last century.[9]

Though the decline in the number of weavers in the later period was not considerable, it must have been very large when the competition started. The position of weavers also had perhaps worsened a little, though this was not possible in any large degree, because their position was already extremely bad at the beginning of the nineteenth century. The real decrease in the industry must have taken place in

1 P. N. Mehta, *Report on the Handloom Industry* (1909).
2 Silberrad, Monograph, *Cotton Fabrics*, N.-W. Provinces.
3 Bannerjee, Monograph, *Cotton Fabrics*, Bengal (1898).
4 J. G. Cumming, *Review of the Industrial Position and Prospects of Bengal* (1908).
5 G. N. Gupta, *Industries and Resources of E. Bengal and Assam* (1908).
6 A. Latifi, *Industrial Punjab* (1911).
7 Francis, Monograph, *Cotton Fabrics*, Punjab.
8 C. E. Low, op. cit.
9 The extent of the industry can be gauged from the fact that in Sir V. Thackersay's opinion the industry consumed double the quantity of yarn consumed in the Indian mill industry. Cf. the paper read before the First Indian Industrial Conference (1905); also Graham-Clarke, op. cit.

the country; the urban weaver, or the weaver wherever he was to be found in fairly considerable numbers, was, on the commercial side at least, fairly well organized. Also he had no other occupation, and was very tenacious of his craft, though it might not pay him at all. The country weaver was also partly a labourer or an agriculturist. It was, therefore, this class of weavers that was declining in numbers. Together with the tendency of the hand-loom weaver towards a further concentration was also noticed this tendency of the rural weaver towards either completely giving up weaving or taking it up completely.[1]

The village industry, then, was not in a flourishing state. The only two important classes of artisans, who were tolerably well-off and were not greatly affected by foreign competition, were the blacksmiths and the carpenters.[2] This was so, largely because the existence of these artisans in every village was peculiarly necessary in the existing condition of the methods of cultivation. Most of the other groups of artisans were in a bad condition and their numbers decaying. In the matter of alternative occupations, also, it was only the blacksmith and the carpenter class who had a fair chance in the towns of earning a living in their particular occupations. For other artisans, driven out of their occupations, unskilled general labour was the only alternative.

Any definite account of the status of the artisans in the village is hard to obtain. The system generally is a great deal too loose now. With the gradual disappearance of grain rents, dues at the harvest time must also have a tendency to diminish or to disappear altogether. It is not easy to say in what parts the custom has completely died out and when. An account of its gradual disappearance is not available. The fact is noted only when the custom has wholly disappeared. Thus we read about the *dhers* of Bombay Presidency: 'In villages they keep in order the water bag or "mot". For this they were formerly paid at harvest time; but the custom now seems to have died out.'[3]

[1] The cotton spinning rural industry was almost extinct by the end of the nineteenth century. Very rarely it was still followed by the aged women of the weaver's household; but mostly wherever it remained it was to be found in the towns. Its existence and also its terribly sweated condition here were both the result of certain social forces. For it was one of the very few industries that *parda nashin* or secluded women could respectably follow. See Hoey, op. cit.; also A. C. Chatterjee, op. cit.

[2] G. N. Gupta, op. cit.

[3] Martin, Monograph, *Leather, etc., Bombay* (1903).

In the 1881 *Census Report* the village community is shown everywhere as almost intact, but even here forces making towards a loosening of bonds are noticed.[1] In many parts the system was quite sound even in 1911; but cases like that of the tanner show that it was liable to break down at any moment. At the same time, there was no upheaval, and the process of change was extremely slow. For example, even where the share of the harvest disappeared, the perquisite given at the annual festivals, at marriage ceremonies, etc., remained. The point to be emphasized is that almost everywhere the tendency was for the regular income of the artisan from the dues and the perquisites, etc., to diminish steadily in importance. This made him more ready to take to other occupations. This point being reached, the other tendencies entered which have been sketched above. The only one that needs further comment is the tendency of those artisans, who were in a position to do so, to take wholly to agriculture. The reasons for this are obvious. The profits of most village industries were extremely small, and the best chance of the artisan to improve his position lay in the practice of agriculture. For village industries were far from steadily improving their position. Again, agriculture was considered to be a much more respectable occupation than any of the artisan industries.

The growth in the numbers of those for whom there was no longer any place in their hereditary industry was shown by the increasing diversity between the caste and occupation statistics. These statistics generally indicate that artisans were giving up their occupations for agriculture or ordinary labour. But certain factors, such as the fact that the caste occupation was by many returned as their actual occupation, even though they might be following it no longer, or that sometimes in an artisan industry people outside its particular caste were also to be found working, make these statistics unreliable for a comparison between the different village industries.

Lastly may be considered the effect of famines on artisans. Materially, artisans were on much the same level as the ordinary labourer; some of them, indeed, the weaver for example, were much below this level. Thus the village artisan, together with the lower

[1] See especially Mr Baine's notes on the village community in the *Bombay Census Report* (1881).

village menial and the agricultural day-labourer, was the first to seek relief in famine times. Of all classes the weaver came the earliest.[1] He also suffered most on account of this compulsory abandonment of his occupation. For on the relief work all were employed on rough manual work. The carpenters, the blacksmiths, the masons might sometimes get employment in their own trade, but for others there was no such hope. The weavers, unused entirely to manual work, suffered most. Many of them lost their skill during this period and it was hard for them to take to their occupation again. The effect is described thus by the Famine Commissioners (1896) : 'In the absence of extraneous aid, many weavers are obliged under the stress of the famine to fall off from their own trade ; and of these a considerable number never return to it, but sink into and swell the ranks of ordinary labourers.'[2] A similar effect was to be seen on the other artisans also, though not in such a marked degree as on the weavers.

Village industry was a decaying industry. Large numbers of those thrown out took to ordinary labour, while a fortunate few were absorbed in industry in the towns ; some also took to agriculture, while for the rest, i.e., those who still retained their hereditary occupations, they remained what they always were, a poverty-stricken class abnormally sensitive to the variations of the seasons.

[1] *Famine Commission*, Minutes of Evidence (1880). Evidence on classes of rural and urban population first affected.

[2] *Report of the Famine Commission*, chap. vi. sec. iv. (1896). Some successful experiments were carried out in some parts especially in 1899-1900 at relieving weavers through their own trade. For details and results of the experiments conducted by the Nagpur Municipality, see *Famine Commission* (1901), Minutes of Evidence : evidence of Rao Bahadurs Bhargo Rao and Bapu Rao Dada.

XIII

THE ORGANIZATION OF URBAN INDUSTRY

Of the different forms of industry in India the only one that reflected the impact of new outside forces by a continuous change in its organization, was the indigenous urban handicraft. The plantation and the factory were forms which had been introduced, in an already highly developed form, from outside India. Of the indigenous industries the village industry had merely decayed under the pressure of the new forces. Its organization still remained primitive. It was that of an artisan working, in most cases, on raw materials supplied to him by his customer and being paid in cash or kind for his services. It was what Bucher termed wage-work.[1] The only important change that took place in the organization of village industry was in the way the payments were made for the services of the artisan. In all other respects—in the lack of capital of the artisan, or in the semi-agricultural position of the artisan—it showed no change.

Urban industry, on the other hand, in all those crafts in which it still flourished, showed a distinct change in its organization. Thus it is the only form of industry in which the effects of these new forces can be studied. All the crafts, indeed, declined in artistic importance throughout the period ; but many, for which the old demand still remained—e.g. gold and silver work, cotton and silk fabrics, brass and copper ware, etc.—or for which a new demand was found—e.g. the carpet industry—still retained some of their commercial importance. Another well-marked tendency was the abandonment of the highest class of products and the production of cheaper kinds of wares. This was specially noticeable in crafts like wood-carving, ivory-carving, artistic working in metals, etc. This was a natural result of a change in the character of the demand. These artistic industries which once depended on the demand of the courts were now dependent on a more popular demand.

The chief feature that distinguished urban from village industry was the presence of a capitalist.[2] Even when the industry was composed

[1] C. Bucher, *Industrial Evolution*, trans. by S. M. Wickett, chap. iv.

[2] Pure 'wage-work' was also to be found in the towns. For example, when a person wanted carving or other wood-work done in his house, he

of independent artisans they needed credit in one form or another. This credit, in the first instance, was provided by the dealer in the raw materials of the industry. Thus in the initial stages of industrial organization the dealer in ornamental wood or . . . ivory supplied the raw materials to the worker ; but he had nothing to do with the disposal of the finished product. The next stage was when the dealer in the raw materials also bought from the craftsman the finished goods and put them on the market ; the next, when the dealer gave out the raw materials and paid a piece-work wage to the artisan for working them up. The last stage was reached when the workers were brought together under one roof—whether called a workshop or a small factory—by the capitalist. All these various forms are to be found in the urban industry of India today. Sometimes all of them are found existing in the same industry.

The hand-loom weaving industry, being the most important and widespread of all Indian handicrafts, is perhaps the best in which to observe the various changes. The earliest stage is that of the independent weaver working generally in ordinary coarse cloth, and disposing of his wares locally. He has almost no capital and can only buy small amounts of yarn from the local dealer. Every time he has to work it up, and he must be able to sell his finished product before he can buy another instalment of yarn. In some places he buys yarn outright[1] but in others he buys it on credit. This is the first introduction of the middleman, in most cases the yarn dealer. The yarn dealer charges interest on this credit but has nothing to do with the disposal of the finished product. These stages of organization are found generally in the small centres of industry and only in the coarse-cloth trade. The reason for the independent weaver restricting himself to the coarser products is obvious. If the weaver has to dispose of his products himself the market must be a fairly steady one and must also be near the weaver. The weaver in the village

merely employed a wood-carver paying him a piece-work wage. This system was most prevalent in ornament making. Here the raw materials were almost invariably provided by the customer and the goldsmith was paid a piece-work wage. Of late years, however, the practice of buying ready-made ornaments has been spreading slowly.

[1] P. N. Mehta, *Report on Hand-loom Weaving*, etc. Also Chatterjee, op. cit. chap. i: 'The Nagina weaver does not take an advance of yarn from the dealer but purchases it outright, keeping a running account with him.'

centres generally resorted to the country market or fair where he could easily dispose of his products ; sometimes even here the necessity of an intermediary between the buyer and the seller was felt, and Bannerjee mentions that in some country fairs, brokers were to be found who brought the weaver and his customer together.[1] Generally speaking, however, the weaver and the customer could come together only in such weekly markets and fairs. The independent weaver had only a small quantity to sell at each time and it was necessary for him that he should sell it at once. The demand for the finer fabrics was largely a seasonal one in India and therefore the independent weaver had no secure place in this branch of the industry. In the large centres, again, where the trade in cloth was well organized, there was little chance of the weaver meeting the customer directly. Therefore, the independent weaver was not to be found in large numbers here.

The position of the independent weaver was very precarious. Mr Mehta estimates that only about twenty-five per cent of the total number of weavers belonged to this class. For a failure to sell his products for any considerable time was bound to drive him into debt. When he once became indebted he could no longer wait to sell his cloth directly to the customer but sold it to a middleman who would give him a return immediately. Sometimes the yarn dealer and the cloth merchant were two different persons,[2] but in most cases they were the same. Indeed the yarn dealer was almost compelled, in many cases, to become also a dealer in cloth.[3] For the weaver was generally indebted to him and in case of failure to sell his products, the only thing that the weaver could offer him in satisfaction of the debt was the cloth itself. The cloth was the yarn dealer's only security and so he generally combined dealing in yarn with dealing in cloth. This system, in which the weavers bought yarn on credit and then sold the cloth back to the yarn dealer, must be clearly distinguished from the system in which the weaver worked for the dealer for a piece-work wage. In numbers of cases, where the yarn dealer and the cloth dealer was the same person, the dealer, instead of charging interest on the credit of yarn, stipulated beforehand that the weaver should

[1] Monograph, *Cotton Fabrics*, Bengal.
[2] Low, op. cit., chap. iii.
[3] A. R. Brown, 'Economic Conditions of the Weavers of Bankura', *Bengal Economic Journal* (January, 1917).

sell him the finished goods at a certain price. In the ordinary hand-loom industry, weavers in this condition formed a large proportion of the total. They were, of course, very badly off ; for the margin of profit taken at both ends by the dealer was very large and left them little more than a bare subsistence wage. But they were, at least partially, independent. When the weaver became very heavily indebted to the dealer even this independence was lost. He had to pledge his loom to his creditor and work for him on piece-work wages. Thus in most centres there would be a few prominent dealers for whom nearly half of the total population of weavers would be working for wages. When the weaver had, in this manner, lost his independence he had no chance of regaining it. Thus in most centres of the industry, the two kinds of weavers—the independent artisan and the artisan working for wages for a capitalist—existed side by side. But in certain branches of the industry the independent artisan had disappeared altogether. This was the case where the market for the products was far removed from the centre of the industry and where the raw materials were rather costly. In such cases the 'house industry' or the 'commission industry' was fully developed. A typical case of this kind was the Coimbatore industry in the finer textiles. The market for the goods of this industry was in the Maratha country, which was at a great distance from Coimbatore itself. The trade was concentrated in the hands of a small number of traders. The weaver, generally, got a fixed amount of yarn or silk and gold-thread (the industry was in bordered cloth) from the trader and received his wages on turning them into finished articles. The weavers in this industry were always attached to one of the traders. The weavers, of course, worked in their own houses on their own looms.[1] Thus in an industry with a specialized demand the weavers worked entirely to the order of the middleman. Some weavers were so reduced in circumstances that they had even lost their looms. These were called 'cooly weavers'. They worked in the houses of the richer class of independent weavers who happened to possess more looms than would employ the members of their family. On an average there was only one loom in each weaver's house, but the small class

[1] Evidence of Mr N. G. Chatteyar : Minutes of Evidence, *Industrial Commission*, vol. III (1916-18).

of rich weavers possessed sometimes as many as five or six looms. They then employed these 'cooly weavers' to work the extra looms. It is to be noticed that in the Coimbatore industry even the weavers possessing five or six looms worked only to the orders of traders. In many places weavers possessing a large number of looms and employing cooly labour on them also financed other weavers to a certain extent.

The entirely independent artisan weaver was only to be found in the village or the small town industry. Mr Mehta remarks: 'All weavers working on the artisan system are more or less connected with the soil.'[1] The semi-independent artisan also was only found in the coarse-cloth industry of the large towns. But the domestic system came in as soon as the weaving of finer goods was introduced. The independent weaver was too poor to buy silk, gold-thread or the other costly raw materials. Even in the smaller centres or in villages, where finer goods were produced, the weaver generally worked to the order of the local money-lender. The cooly weaver, on the other hand, was found in most places, and was very prominent in the larger centres.

In many branches of the hand-loom cotton industry, the introduction of a factory system was not possible. For wherever the demand is certain domestic industry has one great advantage for the capitalist over the factory system; this is that he can stop orders in a slack time without any great loss to himself. In other cases, where the demand is fairly stable, the introduction of a factory system in the hand-loom industry has been tried but has failed. The reasons usually given for this failure are difficulty of persuading the weaver to attend the factory regularly and the loss of the labour of the weaver's family when he leaves his home for the factory.[2] The second reason is certainly an important one. But the main reason seems to be this: that the economies affected by a factory organization of the hand-loom industry are not large enough to make it profitable to the capitalist to pay a substantially higher wage than what the weaver already earns on the domestic system. For any economies to be gained by an improvement in the hand-loom, such as the introduction of the fly-shuttle, could as well be introduced while the weaver is working at home. The economies, then, could not be very large and therefore the extra wage

[1] Mehta, op. cit.

[2] Evidence of Rao Bahadur P. Theagaraya Chetty, op. cit., vol. III.

necessary to induce the weaver to leave his home and to keep him regularly at work in a factory, could not be offered by the capitalist. The commission or domestic system, therefore, was gaining ground and was the predominant form of organization in the industry.

The organization of the silk-weaving industry was, as was to be expected, similar to that of the better class of cotton goods. The raw material being very costly the weaver was working entirely for the dealer. The Madras monograph describing the organization at Berhampur says: 'Most of the weavers, especially in the case of the more valuable cloth, work for merchants, on the piece-work system.'[1] The Bombay monograph records the growth of the process by which the weaver became more and more dependent on the dealer. Here also the new dominant type is the same. 'The merchant advances small sums of money, provides the silk and buys the fabric from the weaver at a large profit to himself.'[2]

The brass and copperware industry was one which was never very widely spread in rural India. It had always been primarily an urban industry; but since the beginning of this period it had begun to concentrate in big towns to an even greater degree than before. The different forms of organization found in this industry were the independent artisan, the master-worker with one or two assistants, and the workshop. The two former were predominant in the smaller towns. The industry was a flourishing one and the demand for its products was very large. Differentiation and specialization of operations were proceeding at a rapid rate and machinery was being slowly introduced. All this resulted in a movement towards the concentration of the industry in a few big towns, and the workshop was becoming the typical form of organization. In many of the larger towns workshops employing as many as twenty or more persons were to be found.[3] This industry provides a sharp contrast to cotton hand-loom weaving. The hand-loom was worked essentially by one man and the different operations could not be split up. In the brass and copperware industry, on the other hand, the processes were very varied and the work was split into a number of different operations, for each of which

[1] Thurston (1899).
[2] Edwards, Monograph, *Silk Fabrics*, Bombay (1900).
[3] Dampier, Monograph, *Brass and Copperware*, North-West Provinces (1899).

a specialized workman could profitably be introduced. The introduction of small machinery for certain simple operations was also possible. Therefore, an organization which could bring a set of specialized workers together and which, on account of a larger unit, allowed the use of machinery in simple processes, effected a great saving and was bound to spread.

The wire and tinsel industry (or rather the gold and silver thread industry) offered an even more marked case of specialization of the different operations. Here it was necessary that the raw material should pass through the hands of a number of different sets of workers before being turned into a finished product. The independent artisan had, therefore, no place in the industry; 'at every stage it is the dealer who gives out the material and receives back the product'.[1] The classes of dealers differed; in the United Provinces they were generally the embroidery merchants, from whom the demand chiefly came. Production by machines was said to be very much inferior to production by hand. But the competition of cheap imported German articles had been rapidly undermining the position of the industry since the beginning of this century; and for its own protection it had to adopt machinery and turn out cheap articles. This, however, was not the case everywhere. The only widely spread use of machinery was to be found in Bombay and the Gujerat towns, and it was here only that the industry was able to hold its own against foreign competition. As soon as machinery was introduced, the organization, of course, conformed to the factory type.

The carpet industry was the only urban handicraft which had a considerable foreign market. In fact, most of the woollen pile carpets made in India were for export. This was entirely a cheap carpet industry. The only two important centres of the industry were Mirzapur and Amritsar. The organization at these two centres differed somewhat. At Mirzapur the industry was scattered in the villages round the town, and in the town itself there were very few carpet-weavers. The exporting firms entirely controlled the trade, but they did not deal directly with the actual weavers. They dealt with the owners of the looms, who engaged their own weavers and other workers. The firms gave advances to the loom-owners and these

[1] Nissim, Monograph, *Wire and Tinsel*, Bombay (1909).

in turn gave advances to the weavers. The weaver in most cases was heavily in debt to the loom-owner, and the loom-owner, taking advantage of this, did not supply the weaver with regular work. For it was evidently to the advantage of the owner to have a large number of weavers attached to himself in case of increased demand. Here again, the organization was the commission or the domestic system.[1] At Amritsar, on the other hand, the industry was centred in the town itself. The exporting firms, who were also the producers, controlled it. Mr Latimar says that this was entirely a factory industry; but the organization is not quite a factory organization. For, within the factory, the work was given out to master-weavers who employed their own workmen. The master-weaver generally made a handsome profit, but sometimes his contract with the firm might turn out unprofitable for him. Thus he was in no sense a wage-worker like the foreman in a factory, but actually bore a good part of the risks of production.

We have seen that all the stages of industrial organization existed side by side in the industry evolved out of the urban handicrafts of India. The main changes that had occurred during this period were the widening of markets for all industries and the introduction of outside competition. The widening of the markets had everywhere the effect of a greater localization of industries and also a greater specialization within them. We have seen in a former chapter that the villager, as yet, consumed very few products of outside industries, and thus all these tendencies were most marked in the somewhat higher kinds of industries. The increase in the production of the finer class of cotton goods and a greater specialization in the different towns—especially in the Madras Presidency—was a result of the forces which had converted the whole of India into one market for the finer textiles. The natural consequence of a wider demand for the products of the industry was the divorce of the direct connexion between the actual producer and the consumer. Such a divorce made the middleman's presence inevitable. The artisan's lack of capital, together with this factor, brought about the loss of his independence by the artisan. Foreign competition, wherever it was not too overwhelming, generally had the effect of compelling the capitalist to give

[1] Kunwar Jagdish Prasad, Monograph, *Carpet Weaving*, United Provinces (1907).

up antiquated methods and introduce new ones. Almost everywhere, it further depressed the artisan and strengthened the hands of the middleman.

Where little capital was required and the consumer was near at hand, the artisan system still survived. Where the raw materials were costly or the consumer was far removed or the demand a seasonal or an uncertain one, the worker's subjection to the middleman was almost inevitable. The potter, as long as he turned out cheap earthenware, was independent and almost never in debt ; but as soon as he turned brick-maker he became indebted ; soon after, the transition was complete and he was turning out bricks for the middleman trader.[1]

The workshop or the small factory came in last. The process was very slow, but under the stress of foreign competition and the introduction of machinery, this form of organization became sometimes necessary. The wire and tinsel industry is a case in point. But factory organization could not come in unless the demand was fairly stable and unless this made the introduction of labour-saving appliances possible, or effected, in other ways, large economies in the cost of production.

Working conditions and the wages to be obtained in domestic industry were far from satisfactory.[2] In this whole group the worker was badly paid and had also little chance of improving his condition. With the advent of factory organization he was taken away from home, and whatever independence in his methods of work he might have possessed was lost ; but, on the other hand, his wage increased and his material condition decidedly improved. There is no comparison made here between the independent artisan and the factory worker. Unfortunately, the field in which the independent artisan still existed was very restricted and he was fast disappearing from the urban industry of India.

It is easy to see that there are no novel features in this evolution of industrial organization. The same features have always been noticed

[1] Low, op. cit., chap. iv.

[2] The industries, such as *phulkari*, *kasda* and other embroidery industries in which women of respectable but indigent families were at work, were terribly sweated. Profits, especially in the embroidery work, were considerable, but the peculiar conditions obtaining made it possible for the dealer to lower wages to an absolute minimum.

in a similar transitional stage in other countries. This merely emphasizes the belief that there is nothing to warrant the contention, frequently made, that the Indian economic structure is the only one of its kind and outside the pale of ordinary economic laws.

XIV

THE PRE-WAR PERIOD — CONCLUSION

We have now reviewed the pre-war economic history of India. This history seems to fall naturally into three different periods. These periods do not differ greatly from one another in their characteristics; the forces which first came to the forefront during the decade 1860-70 were prominent throughout all these years. Their results were slowly worked out; and even today it is these forces—the results of a contact with the economic structure of the west—that are shaping events in India. The division into three periods is made not on account of the differences of economic characteristics, but because they serve to bring out broadly the cycles of prosperity and adversity.

There will be observed a certain amount of rhythm in these periods. We find a period of prosperity from about 1860 to 1875, when a terrible famine arrested it. The progress began again after about five years of adversity and from 1880 to 1895 there was another fairly prosperous period. Then intervened two famines even more terrible than the previous one, but by 1900 the country had recovered somewhat, and the next fourteen years or so, until the outbreak of the War, were mildly prosperous. This is a rhythm which might be compared to the analogous movements of trade cycles. India, being a predominantly agricultural country, these movements are denoted by alternate periods of good seasons and famine years, rather than by years of trade booms and trade depressions. This is not the place to enter into the highly speculative discussion on the relation of sun-spots to the nature of the rainfall, nor are we concerned here with the connexion between trade cycles and the nature of harvests. We merely point out that even today agriculture is so overwhelmingly important in India that the periods of prosperity of the country as a whole depend almost entirely on the nature of the agricultural seasons.

This threefold division has another advantage also. It helps to mark three stages in the industrial progress of India. From 1860 to 1875 was a period which witnessed the beginnings of the factories and the plantations, but in 1875 the progress achieved was insignificant. In the same period began a rapid decline of the handicrafts in India; this latter movement continued throughout the next period till the late

nineties. Real progress in the factory industries only began after about 1875, and during the next twenty years the two textile industries prospered. It was, however, only after the late nineties that industrial progress all over the country began ; and in the first decade of the twentieth century many mineral industries and some small miscellaneous industries came into prominence. It was also during these latter years that there spread in India the use of small machines and small engines, and that there was generally a tendency to make a greatly increased use of mechanical appliances everywhere. There was one feature however, which was noticeable throughout all these years. Old established Indian industry, generally, was non-progressive, and a further progress in the application of science to methods of production in the west was always liable to bring about a rapid decline in these industries. The process was especially marked in the handicraft industry, but it could also be observed in the decline of the sugar or the tanning industries. The factory industries established in very recent times were the only ones that were at all progressive.

What was the industrial position of India in 1914 ? The question has been frequently asked, and many conflicting answers have been given. When we attempt an answer, one thing must always be remembered. We have to take into account not only the new growth but also the decline of old industrial forms. A quantitative statement is impossible. A rough outline would be that village industry as a whole was decadent, and in the towns the majority of the old handicraft industries had declined, while in some of the more important crafts, if there was no increase, neither was there a considerable decline ; of the modern industries, the plantations, the textiles and the coal mines employed a large number of persons, and in later years there was a considerable growth of small miscellaneous industries. But a statement in this form does not help us at all.

Two indexes have often been used to measure a country's industrial progress : (*i*) the proportion of manufactured goods in the import and the export trades ; (*ii*) the growth of towns. In the case of India the first test is not entirely satisfactory. For the proportion of foreign trade to internal trade is not very large ; and again the most important (numerically) industries of India, such as hand-loom weaving, do not figure at all in these returns. Mr Justice Ranade was the first to apply this test to Indian conditions ; he came to the

conclusion that the position of industries had sunk lowest in India about the middle of the seventies, and that from that time till the early nineties the position had been steadily improving. This is substantially corroborated by the other factors that we have considered. Prof Kale, who applied the methods of Ranade at a later date, merely came to the conclusion that there had been an almost uninterrupted progress since the nineties. Thus by an application of this test we arrive at this result : that the industrial position steadily worsened from about the middle of the century to the seventies (a fact already amply proved above) and that since the seventies there has been, on the whole, steady progress. Examination of the nature and character of the growth of towns did not prove much more ; it merely indicated very strongly that when the decline of the old Indian industries is considered the total industrial progress made by India during this period was very small. The returns of the industrial census pointed to the same result.

Not only is the total industrial progress small, but also the position of agriculture as the first industry of India is as strong as ever ; and in the total growth of population in India the agriculturist still maintains his position. This growth of population again is a periodical phenomenon generally dependent on the nature of the seasons. The figures[1] of the increase are :—

1872-81	3.0 millions
1881-91	24.3 ,,
1891-1901	4.1 ,,
1901-11	18.7 ,,
1911-21	3.7 ,,

The influence of famines on the growth of population is thus very clear ; and there is no doubt that, but for this recurring calamity, the increase in population would have been much greater. Even as it is, this growing population has meant an increasing pressure on land in India.[2] Decaying village industry is steadily throwing more and more people on to the land, and only a fixed percentage of this growth has been absorbed by the towns. The result is evident. More and

[1] *Report of the Census of India*, p. 7 (1921).
[2] For a careful study of the problem see P. K. Wattal, *The Population Problem in India*.

more lands on the margin are coming under cultivation and the sub-division of land has in very many parts of India increased to an alarming extent. This problem of finding an outlet for the growing population is the most important of all in India today. The excess of persons on land hampers the progress of agriculture itself, and the question of the uneconomic holding is not likely to be solved unless the growth of industries takes away a large proportion of the agricultural population to the towns.

So far we are on sure ground. The whole survey emphasizes all these points : the very slow growth of new industries and the partial decay of old ones ; the increasing pressure of the population on the land ; the very small progress made in agricultural improvement—especially in the introduction of labour-saving appliances. The considerable change that has come about is neither in agriculture nor in industry but in trade. Methods of trading have been revolutionized, and the volume of both internal and external trade has increased enormously. Markets are now both wider and better organized. But the progress of industry has not gone hand in hand with this commercial revolution. The lines which the small progress that has been achieved have taken are not, indeed, peculiar. They follow in almost every respect the lines of industrial evolution in most other countries. The only thing, then, remarkable about this industrial evolution of India, has been its slowness.

Thus far, the ground is sure. But then, the very slowness of the progress points to certain deficiencies in the industrial equipment of India ; and when an inquiry as to the nature of these deficiencies is made, a survey of economic history does not help us greatly. The attempt, however, may be made and a few points briefly indicated.

Consider the question of capital first ; India is well known to be a very poor country and her accumulations of capital are but small. There is a special reason for this. Agriculture, India's chief industry, was conducted all over the country by small peasant proprietors or cultivating tenants. Thus the distribution of property was much more even in India than in most other countries. Now, it is an accepted fact that an equitable distribution of the country's resources does not help the growth of large stocks of capital in the country. Sleeman, deploring the sub-division of land in India, remarked as long ago as 1844 that this prevented the accumulation and concentration of the

capital so necessary to the industrial development of the country.[1] Sub-division since that time has gone further instead of being checked. It must, however, be pointed out that in some parts of the country, especially Bengal, there were large landowners possessing considerable capital resources. It is noteworthy in this connexion that the only part of India where industry has been, to any considerable extent, developed by Indian resources is Gujerat ; and here there existed from very ancient times an enterprising class of traders carrying on commerce with foreign countries. Again, in most parts of the country, the capital resources were in the hands of the substantial agriculturists, who could always find profitable employment for their money by sinking it, if they so desired, in their land or, what was more likely, by lending it to the needy peasant.

Apart from this agricultural capital which was not available for industrial development, there was in the country a class of traders who, considering the difficulties of commerce in olden times, had brought commercial finance to a high degree of organization. For this trading capital of the country, industry competed with commerce. But what these traders wanted was a quick return. Since the improvement in the means of transport, moving of crops and also trade in imports—especially cotton piece-goods—had become very profitable ; they also gave a quick turnover. In the manufacturing industry, on the other hand, the period of waiting for profits was very long, and the returns were not so certain as those in commerce. Whenever capital was invested in an industrial undertaking, the venture was such as would give a reasonably quick return. Once the profitableness of cotton-ginning or rice-milling was proved beyond doubt, capital rushed into these industries, and soon in many tracts there were more of these small factories than was necessary to deal adequately with the raw material produced. The resources of capital were small and a large part was wanted for agriculture ; the remainder, which might have been utilized for industrial purposes, was rendered unavailable by the entirely unorganized condition of industrial finance.

Organized banking in India, outside the few important trade centres, was almost unknown, and even the few banks that did exist did not find it profitable to devote their attention to financing industry. This

[1] Sleeman, op. cit., vol. II, chap. xvii.

was the unfortunate result of the same causes that had made railways in India look more to export trade than to internal trade. The Presidency banks had from the beginning chiefly financed the movement of crops from rural tracts to the ports. The accommodation was only wanted at harvest time; but during this particular season the demand for money was very strong, and the rate for it rose very high. The banks had, therefore, always adopted the policy of keeping as great a portion of their resources as possible free for harvest time. This meant that they could not lend to any industrial concern for a very long period. These factors had always militated against any help forthcoming from banks to industries. The smallness of India's capital resources, the competition for these from both agriculture and industry, the high profits to be obtained in money-lending and in commerce, and the particularly high rates that ruled for money accommodation at harvest time, all these combined to prevent a large flow of Indian capital into industry.

As far as wages go, labour in India is decidedly cheap. The standard of living among the lower classes is very low and their requirements few. In skilled handicrafts—especially where the occupation is hereditary—labour is also extraordinarily efficient. It is his skill and his low standard of living that assist the weaver in his competition with machine-made goods. It has also been amply proved that, when properly trained and taken proper care of, the Indian labourer is quite as efficient as any other labourer. On the other hand, there is very little doubt that, taking conditions as they are today, Indian labour is decidedly inefficient, even considering the wages it earns.

The main reasons for this seem to be two: (*i*) the illiteracy of the labourer; (*ii*) the conditions obtaining in Indian industry. Sir B. D. Mehta, of the Nagpur Empress Mills, than whom few people are better authorized to speak on Indian labour, always insists on want of education as the chief handicap to Indian labour. This entire lack of education makes the labourer unable to grasp the simplest of mechanical operations; his labour, therefore, becomes very inefficient as soon as he is set to work on a complicated machine. The same want of education is partly responsible for the lack of any desire on the part of the workman for a rise in his standard of living. Unless such a desire is present, a mere rise in wages does not increase efficiency,

but only encourages the labourer to take a somewhat longer holiday than usual. The excessive hours of work have themselves partly caused this want of education, but primarily it is due to the entire neglect by Government of this its most important duty. The want of sanitation in the big cities—and generally throughout India—and the entire disregard, in many industrial establishments, of all hygienic laws, have also contributed largely to the low efficiency of the Indian worker.[1] The effect of excessive hours has already been indicated. With a low and stunted physique, a mind entirely untouched by education, and an extremely low standard of comfort, it is no wonder that the Indian factory worker was inefficient. The low wages, then, were no advantage to Indian industry.

With dear capital and inefficient labour, Indian industry was handicapped in two important ways. As to the resources of the country, on which, after all, its industrial development mainly depends, they are plentiful in many directions. For example, in the production of raw agricultural produce, India possesses both variety and a large supply. Of certain products India possesses almost a monopoly. But there are many deficiencies. To begin with, it must be observed that general ignorance as regards India's resources was remarkable until very recent times. Thus the fact that there were many deposits of iron in India may have been known, but there was complete ignorance as to their extent, their commercial possibility and sometimes even their exact location.[2]

One of the primary necessities for the industrial development of a country is an abundant supply of fuel for generating power. The most important source of this is coal. Coal, though not abundant, is available in fairly large quantities in India, but all the important fields are concentrated within a small area, and a large part of the country—especially the Madras Presidency—is unable to depend on these supplies to any considerable extent. The slowness of the growth of industries before the twentieth century may largely be attributed to this. For it was only after the early nineties, when an extensive railway system had already been built in India, that the coal industry

[1] *Report of the Indian Industrial Commission*, Appendix L: 'Industrial Development and Public Health', by Major F. N. White.

[2] It was merely an accidental reference to certain old geological survey records that ultimately established the site of the Tata Iron and Steel Co.'s Works. See Lovat Fraser, *Iron and Steel in India*.

could expand. The high railway freights on the carriage of coal have also to be considered. Again only Bengal coal is suitable for the production of good metallurgical coke. Oil as a fuel for generating power can only be used profitably in small engines. Large hopes are at present founded on the future use of hydro-electric power in India. The chief difficulty in the way of developing this is the seasonal rainfall. For this makes the construction of very large storage works necessary. The hydro-graphic survey, undertaken on the recommendation of the Industrial Commissioners, shows that the possibilities of generating a large volume of electric power are confined to the Eastern and Western Ghats. Even here the capital outlay will have to be very large.[1] To this difficulty of obtaining cheap power must be attributed a large part of the slowness in the growth of industries.

Equally important was the lack of workings in metals, especially iron and steel. The production of iron and steel is perhaps the most important individual industry in modern times. On it the whole fabric of industrial growth rests. The handicap without it is tremendous. Railways were built in India with imported materials. The machinery for the textile industries was also imported. It was the same with small motors and small mills : almost every mechanical appliance used in the country, down to the many simple agricultural implements used on plantations, had to be imported. This naturally retarded to a great measure the introduction into the country of the use of these appliances. Not only this, but it weighed against Indian industries in their competition with other countries. Schmoller says that the summit and centre of industrial development in the previous stage of industrial evolution was then in the finer textiles manufactures.[2] India, here, was undoubtedly supreme and she had reached the highest point of development long before any other country. But the present stage in development is based on coal and iron : and to the late development and the awkward situation of the coal industry, and the almost entire absence, till a very recent date, of the iron industry, must be attributed in a very large degree the present lack of industries in India.

It has often been said that the early development and expansion

[1] *Industrial Handbook*, issued by the Indian Munitions Board : 'Hydro-electric Power in India,' by J. W. Meares (1919).

[2] Gustav Schmoller, *The Mercantile System*, translated by W. J. Ashley (1896).

of railways in India hindered the growth of industries. In short they laid the country too open to foreign competition and thus repressed the growth of indigenous industries. This is a mere conjecture and can hardly be adequately proved. Indeed, it is as likely that, in the case of late expansion of railways, the old industrial forms in India would have survived longer and the growth of modern industry would have been even slower. It is, perhaps, not so much the expansion of railways, as the railway policy, that is to be blamed. As pointed out in a previous chapter, this certainly did not give as much attention as should have been expected from it to industrial development.

There were a few other factors. One was the lack of the facilities for technical education in India. India had therefore to depend upon imported experts. Industries in most other countries have also been started with the help of foreign experts ; but the peculiarity in the case of India was that, largely on account of her peculiar political position, these imported experts were not replaced, in due course, by native experts. The stream of these imports was carefully continued. Another reason was the indifference of Government to industrial development. The policy of *laissez-faire* was followed entirely till the beginning of the twentieth century. Since the beginning of the century some provincial Governments have begun to take an active interest in the matter, but the veto of Lord Morley on the activities of the Madras Department of Industries showed that *laissez-faire* was dying hard.

When all these obstacles are taken into account the slowness of this process is largely explained. India could only develop industries in which it had some very strong advantages to counteract all these disadvantages as regards capital, labour and natural resources. The jute industry was placed in a very favourable position by its proximity to the only part of the world where jute was extensively grown. Again, it was a European industry. European industries did not suffer as much from the lack of capital as Indian concerns. India had also a great advantage in the coarser branches of the cotton industry. The short staple cotton of India was peculiarly suited to the production of coarse yarn. The home market was also wide and capable of further extension.

This question of markets is becoming an increasingly important matter. Indian industry depends largely on foreign markets, but the

field of expansion in this direction seems to be limited. In the development of factory industry other countries have had a long start. It is only in a few cases like the jute industry that Indian industry can depend on a stable foreign demand ; but, as the history of the yarn trade with China shows, India in the future will have to depend more and more on the home demand. This problem of developing the home demand has not been, as yet, properly tackled. The obvious lines that an industrial development will take have always been held to be (*i*) supplanting foreign imports of manufactures into the country and (*ii*) capturing the market catered for by the village artisan. The mere fact that a country imports some manufactured goods in no way indicates the possibility of that country developing those manufactures, but in certain industries India is expected to make good progress in ousting the foreigner. For capturing the village market either of two things must happen : (*i*) the standard of living of the village population must rise, or (*ii*) the manufacturers must be able to produce goods very cheaply. A third possible line that industrial development might take is the further working up of agricultural products before they are exported out of the country.

Lastly, we must point out that industrial development to be real must be all-sided and that it must go hand in hand with improvement of agriculture. Sir Thomas Holland has pointed out, in another connexion, the value of by-products in modern industry. A great obstacle in the progress of the oil-crushing and flour industries in India is the lack of a suitable home market for oil-cake and bran.

The various obstacles that hampered the rapid growth of industries in India are being slowly removed. Recently an industrial bank has been started ; there are schemes afloat for the introduction of compulsory primary education and the better training of labour ; questions of sanitation and of housing conditions are being seriously tackled. There is now a more widespread knowledge of India's resources and a larger desire among the educated classes to take up industrial pursuits ; railway policy seems to be about to undergo a radical change and the attitude of the Government is now definitely sympathetic. All this points to a steady industrial development in the future. We must not, however, be too sanguine. India, though it may have increased its capital resources during the last two decades, is still a very poor country ; the masses are still illiterate and the training of the huge

labouring class of a vast country must take a considerable time. The problem of power has not been satisfactorily solved ; the iron industry is yet too small and it is turning out only the simplest forms of manufactured products.

Everything points to the fact that India has entered a period of steady industrial development, but, in the near future at least, the process must inevitably be slow. In the meanwhile the country is not reaping any material advantage from the lateness of its industrial evolution. No doubt we had a Factory Law in an earlier stage of the evolution than most other countries, but this did not and does not prevent effectively all those forms of evils which are supposed to be a necessary corollary of the factory. The *Census Report* of 1921 says that Bombay is very much more overcrowded than London, and Karachi a good deal worse than Bombay. The condition of factory workers in general was, in the first decade of this century, as bad as could be expected and their entire want of organization was rendering exploitation of their labour easy. At the same time the tale of the hand-loom weaver's miserable condition reads as if the description was applied to the English weaver at the beginning of the nineteenth century, and not to the Indian weavers at the end of that century. In short, the initial stages that India has passed through have entailed almost as much suffering on the Indian people as those of any other country in a corresponding state. The example of other countries does not help much, simply because there has not yet been found, in any country, a radical remedy for the manifold evils of this latest phase of industrial organization.

XV

THE WAR AND AFTER

THE period which forms the subject-matter of this chapter was of considerable economic significance for India. The outbreak of the war created a situation very favourable in some respects to industrial growth and many new enterprises were launched during this period and especially during the extraordinary wave of optimism that marked the year immediately following the armistice. Then followed an acute depression succeeded by a period of low economic activity and followed in its turn by a depression more severe than any witnessed for many decades past. During this period again large changes were brought about in Government machinery and the economic policy of the Government in India ; the period also witnessed the upsetting, the rehabilitation and a fresh upsetting of the currency system, and the resultant exchange fluctuations had important effects on both the industrialist and the agriculturist.

Section I—*The Agriculturist*

No large change, however, has come about either in the agricultural economy of the country or the economic position of the agriculturist, though the latter has undergone considerable fluctuations. The years immediately after 1914 were fairly propitious and the monsoon during all the war years was a good average. Then came the year 1918-19 which recorded a failure of crops almost all over India. There was no province which did not suffer from a shortage of the monsoon either partial or complete. The monsoon was exceptionally feeble in the Bombay Presidency, the United Provinces and the Punjab ; scarcity was declared in many parts of the Central Provinces and Bihar and Orissa, and equally bad agricultural conditions prevailed in Mysore and Hyderabad. The previous years had been favourable for rice and wheat but the millet position was, in 1918-19, rendered specially difficult on account of the previous harvest having been bad. The 1918-19 famine was one of the major famines of India, to be

compared with that of 1877-8, or 1899-1900. The failure was indeed so complete that it is stated that in the middle of the year (1919)

Agricultural Area of British India

	Thousand Acres				
	1916-7	1919-20	1923-4	1926-7	1929-30
Fallow land ...	45,493	52,135	49,620	49,698	49,714
Net area sown ...	229,620	222,825	222,485	226,012	228,161
Irrigated area ...	48,004	48,963	44,925	47,785	51,010
Rice ...	80,988	78,706	77,201	78,502	79,424
Wheat ...	25,044	23,530	24,294	24,181	24,731
Jowar ...	21,892	22,488	21,138	21,121	23,241
Bajra ...	15,228	14,582	13,675	13,801	13,291
Total food-grains ...	208,773	199,667	197,000	197,219	200,018
Sugar	2,614	2,813	3,045	3,041	2,583
Oil-seeds	14,635	12,571	14,255	14,999	16,330
Cotton	13,837	15,318	15,382	15,687	16,141
Jute	2,671	2,800	2,329	3,610	3,268
Tea	603	702	713	738	766
Tobacco	1,041	1,101	1,026	1,055	1,172
Fodder crops ...	8,173	8,206	8,764	8,940	9,381

there were reason for fearing that the stocks of food in the country simply would not suffice to go round'.[1] The maximum number of persons on relief at any time during the year reached 600,000 which was only one-tenth of the maximum number in 1900. To a large extent this was due to the favourable character of the earlier years. The years 1915-16 and 1916-17 had been good years, specially for rice and wheat, and the exports of food-grains had been remarkably low during these years. Further, Governmental agency existed already for the control of food supplies and this was immediately utilized in relieving the situation created by the failure of the monsoon. Government regulated exports and exported foodstuffs to allied countries during the later war years and it was extremely fortunate that the necessity for the exportation of large quantities of foodstuffs to the Allies began to diminish owing to the approach of armistice

[1] *India in 1919.*

conditions just at the close of the 1918 monsoon. From November 1918 onwards Government restricted the export of food-grains only to countries with considerable Indian populations which were normally accustomed to rely on India for their food supply, such as Ceylon and the Straits Settlements. A rigid system of internal control was also set up and a scheme for a proportionate distribution of provincial surpluses brought into force. The system of export and price control was extended to Burma and large quantities of Burma rice made available for import into India. Indian food supplies were further supplemented by 200,000 tons of Australian wheat imported through the Royal Commission on Wheat Supplies. Indeed the imports of grain, pulse and flour into India in 1919 reached a height never attained before. Government machinery for famine relief has in India, attained a high state of development and organization through considerable experience and it worked smoothly especially in 1918-19 on account of the already existing control of foodstuffs and transport facilities. The railway system of India had also developed considerably since 1900 and the supplies of grain were, therefore, made more mobile.[1] It is often claimed that the resistance of the people to the 1918-19 famine showed that their economic condition had improved since 1900. The conclusion, however, does not necessarily seem to follow. Better transport facilities, a stricter regulation of private trade in food-grains and a comparatively better system of revenue suspensions and remissions may by themselves suffice to explain this. It should, further, be noted that the usual comparison with the famine of 1899-1900 is not appropriate. For the number relieved in 1900 was especially large on account of the liberality in granting relief,[2] and the economic position of the people in 1900 was bad owing to a succession of previous failures of crops. How important this latter factor is is shown by the lesson of the scarcity of 1920-21. The numbers on relief in 1919 did not rise after the middle of that year because the monsoon of 1919 was exceptionally good all over India. But the monsoon of 1920 was again poor in many parts of India. Scarcity was declared in some districts of the Bombay Presidency and

[1] Khan Bahadur Dalal in his evidence before the Indian Railway Committee said that in the absence of the Broach-Jambusar Railway, opened in 1913-14, appalling mortality of cattle and human beings would have resulted in the district during the 1918-19 famine.

[2] *Ante*, p. 88.

the Central Provinces, and the distress was especially severe in the Deccan districts of Madras and Hyderabad State. Further, the early cessation of the 1920 monsoon restricted autumn sowings with the result that the spring crops of 1921, particularly Punjab wheat, were very poor. The yield of wheat was estimated at nearly 25 per cent in deficit of the normal. The price of wheat soared very high and Government thought it necessary to reimpose the embargo on wheat exports and encourage the import of foreign wheat into India. The imports of grain and pulse during 1921 into India greatly exceeded even the record figure reached in 1919. Though the famine of 1920-21 was much less widespread than the famine of 1918-19, its effects were more felt. During the year the number of people seeking relief was proportionately much larger. Nearly a lakh of people were on relief by the end of 1920; their number rose to about 4.5 lakhs by June 1921. The relief operations had to be kept open in some parts till the end of 1921, though the generally favourable rains of 1921 and 1922 relieved the situation considerably. The seasons since 1921 have been on the whole favourable, though there have been some local failures of rainfall and some parts of the country, e.g. Bengal, Malabar, Sind and Gujerat, have suffered considerably from floods during certain years.

During the war years India shared with the whole world a general upward movement of prices. This movement of prices started almost immediately after the beginning of the war, but the proportion of the rise was very different for the different commodities. The generally favourable years from 1914 to 1917, combined with Government control kept the prices of food-grains from rising, while the prices of certain imported articles entering into general consumption, such as kerosene, cloth and salt, rose abnormally. This gave rise to a great deal of distress which resulted in market lootings in many parts of the country in 1917 and in some subsequent years. (The situation caused by the high price of cloth was indeed so grave that Government at one time contemplated the production and distribution of cheap standardized cloth—a scheme, which, however, proved impracticable.) Generally speaking, there was a considerable disparity in the prices of export and import commodities now created. It is not necessary to enter into the details of these price movements, but, basing our remarks on the Bombay and Calcutta index numbers,

it may broadly be laid down that during the war the prices of almost all agricultural products—except raw cotton—rose considerably less than the prices of other commodities, in particular imported commodities; that the bad harvests of 1918-19 and 1920-21 only temporarily pushed up the prices of agricultural products; that the rise in prices of the largely imported commodities, chief among which are cotton manufactures, sugar and metals, continued till 1920-21, after which there was for some years a continuous fall in this group; that the prices of agricultural products, especially cereals and pulses, showed a slight rise after 1923, and that by 1926 the rise of prices in the various groups was equalized, that is they were higher than the prices of 1914, very nearly in the same proportion. For a few years after 1926 the main price movement in India was a slight general fall due, chiefly, first to the exchange policy of Government and later on to world tendencies. Towards the end of 1929, however, depression became very marked and prices came tumbling down. The movement was very rapid till September 1931 when it was stayed somewhat by India going off the gold standard. Since then the fall in prices though not so sharp as before has continued and there is no sign of its having definitely stopped. Further, this depression has brought about a similar discrepancy in the prices of exported and imported articles as was revealed by the post-war boom. While the slump has been pronounced in the case of agricultural products its influence has been less felt in the case of manufactured goods. The result of this has been a special pressure on the agriculturist. This discrepancy is well brought out by the following index numbers of the prices of staple exports and staple imports in India.

		1913-4	1919-20	1920-21	1926-7	1928-9	1929-30[1]
Imports	...	100	206	237	148	133	128
Exports	...	100	158	140	132	127	118

It seems, therefore, reasonable to argue that the comparative economic position of the large majority of agriculturists—especially outside the cotton tracts—worsened during the war years and the years 1918 to 1921 bringing, as they did, scarcity; and influenza, still

[1] League of Nations: *The Agricultural Crisis* (1931), vol. I, p. 194. According to the Calcutta index number the fall in prices in June 1932 as compared with that of September 1929 was in exported articles 50 per cent and in imported articles 22 per cent.

further depressed it. From about 1921-3 the agriculturist was slowly recovering the lost ground but the latest severe depression has reduced him to extreme straits. It has rendered agriculture, as a whole, unprofitable and by materially increasing the real burden of the agriculturist's monetary liabilities it has made the position of the mass of the cultivators absolutely helpless.

We may next consider the statistics of the area under cultivation.[1] The broad features of these remain unchanged. The total area cultivated has shown only a slightly upward tendency and the dominant position of the food-grain crops is as plain as ever. The latter fluctuates from year to year, though within fairly narrow limits. During the first fourteen years of the twentieth century the area fluctuated approximately between 88 and 92 per cent of the total area cultivated; the fluctuations during the next fifteen years are also much within the same range. The changes that have recently come over the export trade in food-grains emphasize the points made in a former chapter regarding the nature of the export of foodstuffs out of India.[2] As has been already pointed out, rice and wheat are the only important food-grains exported. In the exports of rice, the exports of India proper have been steadily diminishing for many years. Even before the war, Burma contributed the major portion of these exports. The average exports of rice from India for the five years before the war were 2,398 thousand tons—out of which 1,814 thousand tons were exported out of Burma. For the war period the total average annual exports were 1,685 thousand tons and Burma's share 1,271 thousand tons. Though the total exports of rice have not, of late years, decreased much, the proportion of Indian exports has steadily decreased and Burma's proportion has increased.[3] Nowadays India has to depend on Burma rice in the event of even a partial failure of the rice crops.

The fall in the exports of wheat has been one of the most important changes in the foreign trade of India during the period under review. It seems that there has been an increase in wheat consumption in India and that the exportable surplus has sensibly diminished. During the years 1903 to 1914 the position of India as an exporter of wheat

[1] See table on p. 195. [2] *Ante*, p. 92.
[3] This was 88 per cent and 90 per cent of the total in 1930-31 and 1931-2 respectively.

was important, and a fairly large proportion of the total Indian production used to be exported. It has been calculated that with mediocre crops India produces just enough to satisfy her domestic requirements;[1] in adverse years there may actually have to be a net import, and it is only with good crops that there is any surplus available for export. But it should be observed that the demand for wheat in India is very elastic and it is only when good harvests coincide with a high world price for wheat that considerable shipments now take place. The exports in 1924-5 were usually high because of the combination of large stocks and a good harvest in India with a low expected yield of the world crop which meant a high level of prices. Since that year, however, the exports have been very small and there was actually a net import of wheat into India during the years 1928-9, 1929-30 and 1931-2. Even with an excellent wheat crop in 1929-30 there was little export of wheat on account of the weak international demand and the competition of foreign wheat.[2] With the deepening of the depression the Indian market itself was threatened by Australian imports and Government felt it necessary to protect Indian wheat interests by the levy of a duty of Rs 40 per ton on imports in March 1931. The food-grain position in India today is, if anything, slightly worse than in 1913-14. About nine-tenths of our total cultivated area is under food-grains and this is devoted almost entirely to growing the food-grain supply for the home population. We depend more and more on Burma for supplies of rice in unfavourable seasons, and we have no genuine exportable surplus left in wheat.

There are hardly any important variations in the areas under individual food crops. The fluctuations amongst the industrial crops are, however, more marked. Next to the food-grains the areas under oil-seeds and cotton are the most important and in both these the variations have been very wide from year to year. The principal constituents of the oil-seeds group are linseed, sesamum, rape and

[1] *India as a Producer and Exporter of Wheat*, California University, Chap. ix. (1927).

[2] Exports of wheat :—(thousand tons)

Pre-war average	1,308
1924-5	1,112
1929-30	21
1930-31	197
1931-2	20

mustard, and ground-nut. Oil-seeds are largely exported; in the quinquennium 1909-10 to 1913-4 the percentage of exports to estimated total production in the country was in the case of linseed 77, sesamum 25, rape and mustard 23, and ground-nut 38.[1] It may, therefore, be expected that the fluctuations in the area under oil-seeds will be influenced to a large extent by th demand for export. The export trade in oil-seeds has undergone a considerable change as a result of the forces set in motion by the war. The war affected the trade in oil-seeds very quickly. Firstly, by increasing freights, it diminished exports, and secondly, it had the same result by contracting demand. Oil-seeds, before the war, were exported, chiefly, to the continental countries, the most important of which were Germany, Belgium, France and Italy. These, having now to curtail their industrial activities, lessened their purchases, while, of course, to Germany and Austria-Hungary no exports were possible. Among oil-seeds, linseed, which was specially useful in the manufacture of paint and varnish and of which the United Kingdom was an important buyer, even before the war, suffered the least.[2] But almost all the others suffered severely. The inability of the central European countries to buy large quantities for some years, even after the war, retarded a speedy recovery of the trade and it was not till 1922-3 that exports again approached the pre-war level. But in the meanwhile the war had brought about a considerable change in the condition of the oil-seeds trade. On the technical side the war helped the development of refining processes and 'the general effect of these changes has been to increase considerably the interchangeability of oils'.[3] Further, the war helped to develop other sources of oil-seeds supply, with the result that the peculiarly favourable position held by certain oil-seeds of India before the war has been lost. There has come about also a change in the comparative importance in exports of the various seeds. The changes in areas under cultivation are not, however, as large as

[1] The corresponding percentages in 1925-6, 1927-8, 1930-31 and 1931-2 were as follows:—

	1925-6	1927-8	1930-31	1931-2
Linseed	77	63	68	29
Rape and mustard	13	8	4	6
Sesamum	10	2	0.2	3
Ground-nut	24	24	19	25

[2] A further reason was, perhaps, that linseed stored well with ore and, therefore, commanded a favourable freight rate.

[3] *Enc. Brit.* (13th edition), article on 'Oils and Fats'.

the changes in export, because, for all the oil-seeds there is also a considerable home market which has throughout remained comparatively steady. Linseed has had to face the competition of Argentina and the home-grown supply of some European countries, and rape and mustard seem to be losing ground because of the competition of ground-nut. In both these there has been a small diminution of the area under cultivation. In sesamum, whose exports have sunk very low of late, the diminution is larger. The export of ground-nuts being steadily on the increase, the area under that crop has made rapid strides. To some extent, these various tendencies were apparent before the war, but their effects have since been accentuated. The position of Indian oil-seeds in the international market is, thus, not so secure as it was in the pre-war period. In linseed Argentina has rapidly increased its production, in sesamum China controls the market to a large extent, and in ground-nut West Africa has of late become an important producer. There are also other vegetable products producing oil from China, South America, West Africa, etc., which further intensify the competition that Indian oil-seeds have to meet.

Raw cotton is, perhaps, the most important money crop in India. The area under this has fluctuated widely during the period under review, showing, however, a general tendency to increase. The area under cotton is very elastic with respect to its price and has become specially sensitive since the war period. The high prices of some years during and after the war have helped the extension of the area under cotton. The area under jute is notoriously unstable. The shrinkage in war years was due to the low prices of jute. The exports of raw jute dwindled and the proportion of the crop taken up by the Indian jute mills rose rapidly. The prices were, therefore, kept low. In east and north Bengal, which areas are the chief producers of jute, a large part of the land under cultivation fluctuates between the two competing crops—rice and jute. During the war and after, the comparatively larger rise in rice prices depressed the position of the jute crop. And the President of the Jute Mills Association in 1925 expressed a fear that the supply of raw material was not keeping pace with the growth of the industry. For some years after 1925 there was an increase in the area under jute but the agricultural slump has hit jute hard. The entire lack of demand

combined with a good crop in 1930 depressed the position so far that official and non-official propaganda was undertaken to discourage cultivators from planting jute, and the area under jute in 1931 was only 1,862 thousand acres. The high prices of sugar during the war, which reached a record figure in 1920, had considerably stimulated the production of sugar-cane in India. Though these prices steadily fell during the next decade the area under sugar-cane did not materially diminish. Indeed it reached during some recent years a figure not touched for the past three decades. This temporary increase in some years is usually attributed to high prices of *gur*.[1] But the nature of the relation between the prices of *gur* and sugar and the area under sugar-cane is not yet clear. The Government have recently adopted the policy of levying a protective duty on sugar imports. This is the first instance in India of protection being definitely given in part to agricultural interests, and this measure will in all likelihood stabilize and in some favoured districts lead to an expansion of the area under sugar-cane. The rapid progress in the area under fodder crops noticed in the previous period has been well kept up. Indigo experienced a large expansion during the war and a similar contraction afterwards. These are in brief some of the more important changes of this period and it will be noticed that there have been no considerable changes in the respective positions of the crop areas compared with what they were on the eve of the war.

The position of India as regards crop production is best summed up in the following words of Mr Howard: 'India is a land of small holders devoted to the raising of crops. These are of two kinds. The first in area and importance are the food crops—the cereals and pulses which feed the population. The second group comprises the money crops by which the cultivator pays the land revenue and purchases the necessaries of life. The surplus produce which remains after the needs of the country are satisfied is exported.'[2] Excepting linseed, ground-nut, cotton and jute a very large proportion of the important crops are retained in the country for consumption. The home demand for agricultural products is steady and has grown with the growth of population. A shrinkage in it comes about only with the keen competition of some foreign agricultural product, such as

[1] Report of the Indian Tariff Board on the Sugar Industry (1931), chap. ii.
[2] Howard, *Crop-Production in India*, p. 52 (1924).

the contraction in the demand for Indian sugar consequent on the competition of imported beet and cane sugar.

The data, such as those relating to the yield of crops, etc. are not sufficiently comprehensive and reliable for directly measuring the progress of agricultural improvement in India, but the pace of improvement seems, on the whole, to have been slow. A series of reasons militate against any rapid progress and these have already been indicated above. The introduction of new crops or of foreign varieties of Indian crops to which a great deal of attention was paid originally has been largely given up and the chances of success of such attempts are now reckoned to be very small.[1] Systematic work on agricultural improvement may be said to have really begun with Lord Curzon's organization of the Agricultural Department, and since then a considerable amount of work has been done in some directions. Further, the main problems have at least been clearly defined,[2] and it has been realized that the working conditions of the average cultivator must be taken into account before any proposals for his benefit can become practicable. The chief question tackled has been the study of the existing varieties of agricultural products and their improvement. Perhaps the first systematic attempt of this kind in India was the study of wheats by the Howards. As Dr Voelcker pointed out long ago the methods of cultivation as well as the varieties of crops grown vary immensely throughout India, and it was obvious that the selection of the most suitable varieties and their standardization would be of considerable benefit to the cultivators. A large amount of work has been done in most provinces in the introduction of improved varieties of crops. The chief successes have been in wheat, cotton, jute, ground-nut and sugar-cane.[3] The cultivators are also ready to take these up as soon as they become convinced of their financial benefits. A very striking instance of the readiness of cultivators given by the Agricultural Commission is the increase of ground-nut cultivation in Khandesh and North Gujerat from 4,500

[1] *Report of the Indian Agricultural Commission*, pp. 98-9.

[2] The best account of these can be found in Howard, op. cit.

[3] Statistics of the extent of the spread of improved varieties are given in the *Report of the Agricultural Commission*, p. 95. The percentage of area under improved varieties to the total area under the crop was estimated in 1926-7 to be: in Cotton, 22.7 per cent; Jute, 14.1 per cent; Wheat, 11.9 per cent; Ground-nut, 10.3 per cent; Sugar-cane, 7.2 per cent.

acres in 1912-13 to 310,000 acres in 1926-7. The work of research involved in experimenting upon suitable varieties has to be supplemented by the spread of the knowledge of these varieties and the effort to keep these improved strains pure. For this latter purpose special seed farms with ancillary agencies for propagation and distribution of seeds have been set up and, in cases of crops like cotton where the fear of deterioration and adulteration of seed is specially great, legislative measures such as the Cotton Transport Act of 1923 have been resorted to.[1] For the work of propaganda, the Agricultural Associations, of which much was expected, have not shown good results outside the Central Provinces,[2] and the Agricultural Commission favour the formation of bodies on the lines of the Taluka Development Associations of the Bombay Presidency.[3]

The introduction of improved varieties of crops has been found to be the easiest task of the Agricultural Departments and their research successes have also been most conspicuous in this direction. In the direction of the improvement of agricultural implements, 'the Agricultural Departments have so far done disappointingly little'[4] is the verdict of the Agricultural Commission. There is also the nitrogen problem.

'After the regulation of the water supply, the solution of the nitrogen problem is the next step in the development of Indian Agriculture,' says Mr Howard.[5] The Indian Sugar Committee as well as the Agricultural Commission have both considered this question in detail. The latter have summarized the Indian experience in the use of all kinds of nitrogenous fertilizers—farm yard manure, night-soil, or composts after the Chinese fashion ; the introduction into the rotation of leguminous crops or crops which can be used for green manure ; or the application to the soil of oil cake, sulphate of ammonia[6] or other artificial fertilizers. In each direction a little has been done but a great deal still remains to be done both in the way of investigation and the education of the cultivator. It will be apparent from this bald summary that the lines on which improvement is proceeding

[1] Ibid. p. 120.
[2] Ibid., p. 157.
[3] Ibid., pp. 159-162.
[4] Ibid., p. 107.
[5] Op. cit., p. 35.
[6] It should be noted that of the Indian production of sulphate of ammonia a large portion is exported as the home demand is not large enough.

are much the same as those indicated in a previous chapter.[1] No new line of work likely to yield rapid results has been discovered and it is noteworthy that a great deal of criticism levelled against the report of the Agricultural Commission emphasized the fact that they had found out nothing new and proposed nothing that was striking. No considerable increase in the cultivator's income seems immediately possible through the activities of the Agricultural Departments. The introduction of improved varieties has been the most successful and beneficial work up to now and in some cases its economic results seem to have been fairly substantial. For example, Mr Howard claims that the distribution of improved wheats has brought to the grower an increased profit of at least fifteen rupees an acre.[2] But even in these cases the spread of improvement is comparatively slow and no such rapid development as of the Marquis wheat in Canada is to be expected. Having regard to the small holding, to the poverty and ignorance of the Indian peasant and the variability of the seasons in India it is not possible to achieve large results quickly. However, patient following up of the lines of development already laid down is sure to bring the peasant a substantial measure of relief.

As has been remarked above, livestock statistics were very imperfect till 1914. The figures at successive cattle censuses till 1914-15 increased so rapidly that it was obvious that 'the main reason for higher figures recorded was the expansion and improvement of statistical work'.[3] Since 1914-15, however, the 'fluctuations are no more than are to be expected in a country where the livestock depend largely on the products of largely varying seasons'.[4] The numbers of cattle recorded in British India were approximately 147 millions in 1914-15, 146 millions in 1919-20 and 151 millions in 1924-25. The proportion of cattle varies enormously in the different provinces. For example, it is usually very low in the cotton-growing tracts and comparatively high in the rice areas. The Agricultural Commission deal in their report at great length with this question and find that the present cattle position of India is very serious. The conversion of the best grazing lands of the past into arable lands for meeting the needs of a growing population has made the problem of maintaining the quality of cattle very difficult. There has been consequently a

[1] *Ante*, pp. 93-96. [2] Op. cit., p. 105.
[3] *Report of the Indian Agricultural Commission*, p. 176. [4] Ibid.

considerable deterioration in quality, which has resulted in setting up a vicious circle. This may best be described in the words of the Commission: 'The number of cattle within a district depends upon and is regulated by, the demand for bullocks. The worse the conditions of rearing efficient cattle are, the greater the numbers kept tend to be. Cows become less fertile and their calves become undersized and do not satisfy cultivators who, in the attempt to secure useful bullocks, breed more and more cattle. As numbers increase or as the increase of tillage encroaches on better grazing lands, the pressure on the available supply of food leads to still further poverty in cows; and a stage is reached when oxen from other provinces or male buffaloes are brought in to assist cultivation. This stage has been reached in Bengal.'[1] The extension of cultivation not only diminishes the grazing lands available but also increases the number of bullocks required for tillage purpose. The problem is gigantic. Its solution lies in the increase of fodder supply and the selection and improvement of local breeds. The food problem can be solved by undertaking dry fodder storage, by a better utilization of fodders and by the introduction of new fodder crops. Since the disappearance of the old nomadic cattle-breeders of India no careful breeding is practised and the work of improving and maintaining the quality of the local breeds now naturally devolves, in the absence of private breeders, on Government cattle farms. The deterioration is, however, so general, its evils so widespread, and the general economic situation so accentuates them that it will obviously be long before the process of deterioration is even arrested.

It has been remarked above that the extension of communications in India brought about a redistribution in the crops grown in the various tracts and, where that was possible, the substitution of a superior cereal for the inferior food-grains. The almost complete disappearance of cotton from Bengal and its increasing concentration in tracts like Berar, Khandesh and Gujerat, or the diminution of the sugar-cane area in some provinces and its increase in others, were conspicuous examples of this tendency. Similarly, important cereals like wheat tended to some extent to increase their areas at the expense of inferior food-grains like *bajra*. Both these tendencies had almost completely

[1] Ibid., p. 191.

worked out their effects by 1914, and since that date the proportions of different crops in various provinces have been more or less stationary. Though in India, as a whole, no large fluctuations in areas are to be observed, yet considerable changes may go on in the various money crops grown in particular tracts as they are found more or less suitable. Thus in some Deccan districts cotton first extended at the expense of wheat and oil-seeds, while in recent years, in East Khandesh especially, there has been observed a tendency for ground-nut to bring down the cotton area. Such changes are noticeable chiefly in the case of money crops and apart from changes of this character the only important factor influencing the distribution of crop areas is the increase of irrigation facilities.

The internal trade statistics of India have always been very defective and give no correct idea of the internal trade in various products. Otherwise they would have afforded a good basis for estimating the extent of the commercialization of agriculture. As pointed out above the process of commercialization has been a result of the increase in means of communications and a breakdown of the self-sufficiency of the village. There is now a distinct tendency to grow crops for the market. Broadly each cultivator grows his own food-grains and grows also some money crop to buy the other necessaries of life. If he grows no money crop, he has a surplus of food-grains to sell, which he brings to the market at harvest time. But the conditions in this respect vary from province to province and from cultivator to cultivator.[1] The more prosperous cultivators keep the full supply of their requirements for the ensuing year, and sell only the actual surplus, while those indebted are compelled to sell a large portion of the total crop, and borrow back some of it later in the year. In the case, especially, of grain loans a large portion of the crop would not be sold by the cultivator himself but made over to the money-lender.[2]

The grain loan may only be a case of temporary indebtedness but it serves to bring a large part of a crop into the market. Thus Mr Darling writes: 'In parts of Gurgaon the grain is divided into three heaps, one containing six months' supply of food, another a supply

[1] It seems also that the state of communications in a district has considerable influence on the amount of the crop brought to markets and the amount sold to the village money-lender. Vide *Report of the Agricultural Commission*, p. 388, and Keatinge, *Rural Economy*, p. 158.

[2] Vide Darling, op. cit., pp. 220-21.

of seed and the third whatever remains. The last is the money-lender's share and he sometimes takes the second as well. In Muzaffargarh, the whole wheat crop is usually taken and sometimes part of the autumn crop as well.'[1] These are, of course, the worst parts, but such conditions were once common and it is only since the war that in the Punjab there is everywhere a tendency to substitute cash for grain in credit transactions. In describing conditions in the Deccan Mr Keatinge writes : 'In case of jowari and bajri most of the surplus produce comes into the market immediately after the harvest, and in the case of cotton, wheat and oil-seeds practically the whole crop is marketed at once.'[2] The methods of marketing differ widely in the case of the various crops. In the large majority of cases the village money-lender is also the buyer of crops as well as the miscellaneous shopkeeper of the village. In the case of the ordinary food crops in which the trade was local, the agency of the ordinary money-lender was alone available, but where the crops entered into inter-provincial or international trade the marketing organization was more elaborate and there was some chance of the cultivators obtaining a better price. Thus in Khandesh the cotton brokers made advances to cultivators on standing crops at low interest to secure custom and there were *gur dalals* in the sugar-cane areas of the Deccan.[3] Organized open markets to which the cultivator resorted with his produce were most advantageous to him. These are to be found most commonly in connexion with cotton. In the case of other crops agents of big buyers and other middlemen go from village to village buying up their supplies. Thus we read in a Mardas village survey : 'The villagers take the cotton to Sattur and Virudupatti and sell it to the agents of the many ginning companies that are there. The other commodities are not taken to the market by the villagers but are sold to the merchants who come to the village. Tobacco, senna, chillis and sweet-potatoes are sold to Sivakasi merchants who visit the village regularly.'[4] Or again : 'The chief produce sold by the villagers is paddy. They do not convey it to the market . . . . Each landlord retains as much paddy as is necessary for his own

[1] Op. cit., p. 221. See also Jack, p. 101, and Keatinge, op. cit., pp. 158-61.
[2] Op. cit., p. 158.
[3] Keatinge, op. cit., pp. 160-62.
[4] Slater, *Some South Indian Villages*, p. 39.

consumption and sells the rest to the corn-dealer for money.'[1] In another survey we are given a detailed classification of how the produce of the village is disposed of. Cambu, cholam and ragi (all millet crops) and pulses are all locally consumed. Paddy (rice) and coriander seed are bought by dealers at the spot and consumed in the district, while cotton and senna are sold partly at the spot and partly taken to Tuticorin. These are both export crops. We are also told: 'The senna crop is bought by dealers before it is harvested. Sometimes the same thing is done with regard to the cotton crop also.'[2]

We have pointed out before that the Berar markets[3] have been the most advantageous to the cultivator and this is because they are set up and regulated under the Cotton and Grain Market Law (1897). Regulation of markets seems to be absolutely necessary, for even in the case of export crops the conditions of marketing differ widely from tract to tract. This is well brought out by the investigations conducted by the Indian Cotton Committee. No doubt the economic condition of the peasant is an important factor in determining the extent to which he can benefit from good marketing arrangements. But even when the conditions as regards indebtedness, etc., are similar, regulation is of considerable benefit to the cultivator as is apparent from the contrast in the marketing of Berar and Khandesh cotton.[4] As we have pointed out already, the conditions with respect to marketing are best in the case of cotton, and Berar legislation, though general in intent, is carried out only in the case of cotton markets. The Bombay Act of 1927 also provides for the regulation of cotton markets alone. The conditions of marketing of other export crops are much worse. The picture of the Burma rice trade given by the Agricultural Commission[5] is the same as sketched by Mr Noel-Paton some years ago,[6] and it seems that in the jute trade there may be as many as four agencies between the cultivator and the jute mill.'[7] The Agricultural Commission have, therefore, recommended that the system of regulated markets should be extended to products other than cotton and that such markets should be established everywhere by provincial legislation.

[1] Ibid., p. 90. [2] Ibid., p. 67. [3] *Ante*, p. 150.
[4] *Report of the Agricultural Commission*, p. 385.
[5] *Report*, p. 387. [6] *Ante*, p. 150.
[7] *Report of the Agricultural Commission*, p. 386, also Panandikar, *Wealth and Welfare of the Bengal Delta*, pp. 52-3.

It is difficult to determine what have been the changes in marketing conditions since 1914. Mr Darling mentions that in the Punjab, grain loans are going out of fashion because of the war and the development of co-operation. In the Bombay Presidency some headway has been made in the starting of cotton sale societies. In some parts of the Presidency these societies met in the beginning with considerable opposition from the local dealers in cotton; but the difficulty has now been surmounted.[1] In the Punjab Canal colonies Mr Darling also notes the 'tendency of the colonists to dispense with the local *bania* (money-lender) and take his grain to the market himself'.[2] But the position of the Punjab Canal colonist is especially favourable and it does not seem that any such tendency is general all over the country.

Indebtedness has already been mentioned as the greatest curse of the Indian peasant. It is universal throughout the country-side, though its extent is not actually known. The only important attempt made at collecting debt statistics on a large scale has been Mr Darling's, and he found that in the Punjab only 17 per cent of the proprietors and land were free from debt, and that debt is almost as widespread among tenants as among proprietors.[3] As to the amount of debt he estimates that the average debt among proprietors is roughly equal to three years' net income from their land. The various Provincial Banking Committees have attempted to estimate the burden of debt in the provinces and this totals up to a sum of nearly Rs 900 crores for the whole of British India. Some of the committees also attempted to work out figures of the percentage of cultivators free from debt but little importance can be attached to these. There was general agreement that of recent years and especially during the post-war period the burden of indebtedness has increased and the Central Banking Committee drew pointed attention to the fact that this increase based on an increase in the prices of agricultural products has now become a crushing burden to the agriculturist.[4] The further heavy fall of prices after the Banking Committee reported has since worsened this position. The earlier years of the period under review were on

[1] *Report on the Working of Co-operative Societies in the Bombay Presidency*, 1927-8.

[2] Op. cit., p. 184.

[3] Op. cit., chap. i.

[4] *Indian Central Banking Enquiry Committee Majority Report* (1931), p. 56.

the whole full of trouble for the agriculturist. Outside the cotton area the prices of agricultural products did not rise with other prices and there were the famines. What difference a famine makes is shown by Dr Mann's calculation that the 1918-19 famine meant an increase of over 44 per cent in the indebtedness of Jategaon Budruk.[1] On the other hand it would not seem as if good years made any difference. Mr Darling has conclusively proved that the better the economic position of the cultivator the higher is his debt and under the usual conditions of unrestricted credit prosperous years mean a considerable addition to the debt charge. This seems to be a universal phenomenon. For Mr Slater also is led to believe, as regards conditions in South India, that the amount of indebtedness may be increasing *pari passu* with the increase in the value of land rights.[2] It has already been pointed out above how it is held that the creation of land rights has been responsible for the evil of indebtedness. Of course, a man who had no credit at all could not possibly have a large debt and all causes which increase the credit of the cultivator may also help to enhance the extent of indebtedness. The larger the margin of the cultivator over the subsistence level the more is he able to borrow, and these considerations have almost led some to suggest that a remedy for indebtedness is higher taxation by the State, thus diminishing this margin.[3] But this is obviously a counsel of despair.

Legislation to prevent the growth of indebtedness had been tried as early as the Deccan Agriculturists' Relief Act, but this and other similar measures had failed to produce any effect. The Usurious Loans Act (1918) also is practically a dead letter in all provinces. The Agricultural Commission, though agreeing that legislation cannot eradicate the evil of indebtedness, commend legislation on the model of the British Money-lenders' Act of 1927 for preventing the grosser abuses of our money-lending system, and they also believe that simple Rural Insolvency Acts may prove useful in checking the continuous growth of the burden of inherited debts.[4] The Central Banking Committee while agreeing with the latter recommendation of the

[1] Mann, *Land and Labour in a Deccan Village*: Survey No. 2, p. 135.
[2] Slater, op. cit., p. 241. The Agricultural Commission also remark: 'The evidence we have received indicated that his (Darling's) general conclusions apply to an area far beyond the confines of a single province.' (p. 432).
[3] Calvert, *Wealth and Welfare in the Punjab*, chap. v.
[4] *Report*, p. 438.

Agricultural Commission laid great stress on the 'pursuit by local governments of a vigorous policy of debt conciliation on a voluntary basis' as being the most effective remedy for the evil of rural indebtedness.[1]

With the problem of indebtedness is also intimately connected the question of the transference of land from peasant proprietors to money-lenders. Information as regards this, however, is even scantier than the data about indebtedness. It may be said to be almost non-existent. We have, therefore, to content ourselves with quoting the remark of the Agricultural Commission that 'money-lenders were steadily adding to their landed possessions in most provinces.'[2] Legislation laying restrictions on alienation of land has already been noticed in a previous chapter and the only addition to these Acts during the period under review was the Central Provinces Land Alienation Act of 1916, whose operation, however, is restricted to the members of the aboriginal tribes of the Chhatisgarh Division. Both the Punjab and the Bundelkhand Acts seem to have worked satisfactorily as far as their primary purpose, that of preventing the transference of land from agricultural to non-agricultural classes, was concerned. But here two questions arise. Firstly, whether as among the agricultural classes themselves these Acts have slackened the progress of the movement of land from the cultivator-owner to the *rentier*. There seem to be almost no data available on this point. And if, where these Acts operate, the transference of land is not reduced but its flow merely restricted to one class of landowners or money-lenders then there is the further question whether an absentee landlord is necessarily better when he belongs to the agricultural classes than when he is a non-agriculturist. On this point the testimony of Mr Darling seems to show that there is not much to choose between the two—the advantage, if any, being on the side of the non-agriculturist.[3]

It has now been long recognized that the only positive remedy for these evils is the spread of the co-operative movement. The transference of land will cease only when the burden of debt is not ruinous and indebtedness cannot be checked merely by an indiscriminate contraction of credit. The method of Government assistance by means

[1] *Report*, p. 65.
[2] *Report*, p. 421.
[3] Darling, op. cit, pp. 187-190.

of cheap credit has also a strictly limited scope. We have already referred above to the two Acts under which Government assistance to cultivators is given.[1] The loans under the Agriculturists' Improvement Act are taken advantage of, especially, for improvements in irrigation facilities, mostly well-digging, and the loans under the Agriculturists' Loans Act are given chiefly in times of distress for miscellaneous purposes such as the purchase of seed or cattle, etc. The Famine Commission as also the Irrigation Commission criticized the administration of these Acts as being far too rigid; evidently, however, matters have improved during the last quarter of a century, for the Agricultural Commission are on the whole satisfied with the rules under which loans are now given. Government action has, however, a very restricted scope and it is only at the time of acute scarcity or for such demonstrably productive uses as can easily be checked by ordinary administrative machinery that reliance can be placed on Government credit. Otherwise there is only one agency which can effect a real improvement in the cultivator's position, and that is co-operative credit. For the cultivator wants both cheap as well as discriminating credit.

The co-operative movement in India was only a decade old in 1914. It was launched with the Act of 1904 but by 1912 its progress had necessitated a revision of that Act. The 1912 Act widened the range of societies falling under the Co-operative Societies' Act, bringing in societies other than agricultural credit societies and unions of individual societies in larger bodies. We have already described above how it was through the initiative of certain Government officers and after inquiry by Government that the experiment of co-operation had been begun in India. After gaining a decade's experience of the working of the movement along lines originally laid down, Government appointed in 1914 a committee to consider afresh the whole structure of the movement. The lines of co-operative development since 1915 have been largely moulded by the recommendations of that committee.

The organization of the movement in India is threefold. The foundation is the primary society; the primary societies are financed and looked after usually by the district central bank, and at the apex of the whole system comes the provincial bank. Between the primary society and the central bank there is in many cases an intermediate

[1] *Ante*, p. 69.

organization—either a supervising union or a guaranteeing union or a banking union. The guaranteeing unions were formed not only for supervising the working of member societies but also for mutually guaranteeing their loans. Except in the province of their origin—Burma—they have not been very successful. The experiment with guaranteeing unions in the Central Provinces ended in disaster and in the Bombay Presidency, where this was the form first introduced, they did not prove a success, and it has been decided since 1925 to start supervising unions instead. The supervising union is a combination of primary societies who come together and jointly appoint a trained and competent supervisor to look after the working of member societies. This form is chiefly to be found in Madras. The banking union—a Punjab experiment—combines banking and credit business with supervision. These intermediary unions are not general except in Burma, Madras, Bombay and the Punjab, and elsewhere the central banks themselves undertake all the supervision of the primary societies. The Agricultural Commission think it desirable that finance and supervision should be under separate control but this is a point of view that has not had universal support.[1] A noteworthy feature of the Indian Co-operative movement is the position of the official Registrar of each province in it. Under the Co-operative Societies' Act he has considerable powers of inspecting registered societies, causing inquiries to be made into their condition, settling internal disputes and in specially grave cases of winding them up. The Government department also conducts an audit of all the registered societies. Thus, the responsibility for the proper guidance of the movement rests on Government to a considerable extent.

The progress of the movement during the period under review has been considerable but it has been rather uneven. In some provinces it is widespread, in others it is confined within narrow limits. The Agricultural Commission have attempted to estimate the proportion of members of agricultural societies to the total number of families in the rural areas. Among the major provinces, the proportion is considerable only in the Punjab, Bombay and Madras, being 10.2, 8.7 and 7.9 respectively; in the others it is below 4, reaching 1.8 in the United Provinces.[2] It cannot be denied that the movement has

[1] See Mr B. A. Collin's article in *The Bombay Co-operative Quarterly* (December 1928).

[2] Op. cit., p. 447.

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[2] Op. cit., p. 447.

made enormous strides during the period under review as the figures below will show :—

		Average for 5 Years				
		1910-11 to 1914-15	1915-16 to 1919-20	1920-21 to 1924-5	1925-6	1928-9
Agricultural Primary Societies	No. of societies	10,891	25,873	51,716	71,140	88,377
	No. of members	459,096	902,930	1,661,098	2,327,899	3,009,900
Non-Agricultural Primary Societies	No. of societies	664	1,662	4,183	7,069	9,761
	No. of members	89,157	226,031	493,509	730,126	992,297

By far the most important class of societies in India is the agricultural credit society with unlimited liability. In 1926-7 the number of agricultural credit societies was 73,345 of which only 400 were of the limited liability class. It is but natural that this should be so; for the demand for agricultural credit at reasonable rates is a primary need that must be satisfied. It has, however, been recognized that the credit society must be supplemented by societies which will obtain for the cultivator a fair price for what he produces. The most conspicuous successes in sale societies doing this work have been the cotton sale societies of Gujerat and the Karnatic. In Bengal the jute and paddy sale societies, in the Central Provinces the cotton adat shops and in Punjab the agricultural commission shops are also further examples of successful sale societies. It must, however, be admitted that the extent of this kind of co-operation is as yet extremely meagre. Co-operative production has made almost no progress in India. Of the other kinds of co-operative activity the most significant from the agriculturist's point of view are the irrigation societies of Bengal and the societies for the consolidation of holdings in the Punjab.

There are various forms that non-agricultural co-operation has taken. The consumers' movement which has been the most important in some other countries is very weak. The producers' movement is in a more flourishing condition and of this the direction which holds out

most promise for the future is co-operation among artisans. In this the weavers' societies, as is to be expected, are the most numerous. Among the rest are to be found metal workers, leather workers, dyers, etc. A difficulty common to all these societies, is, however, the want of a proper marketing organization, and this has not yet been adequately met.

The rate of progression as well as the financial position of the co-operative movement in India are eminently satisfactory. Some doubts may, however, be raised about the supports on which it rests and the spirit with which it is informed. It has been from the first largely a movement grown under official patronage and guidance. Some of the most notable successes of the movement have been where the district executive officials have taken a personal interest in its growth. The non-official sponsors have also been largely outsiders. The movement is hardly spontaneous and thus also lacks a balancing force, a corrective from within. Progress is many times very illusory and in the absence of a constant vigilance on the part of the department an almost complete collapse, as was witnessed in the Central Provinces, may come about. Of recent years almost each Provincial Registrar has reported on the necessity of applying a brake to further progression, consolidating the movement, eliminating weaker societies. The following extract from a provincial report[1] illustrates a common attitude on the part of the cultivator. The Registrar writes : 'I am afraid that the average Deccani cultivator has not passed the stage at which he regards the society merely as an alternative to the soucar. He has always in the past borrowed all he can from the soucar, and when the co-operative societies have come into being, and he finds that he can get easier rates of interest, he borrows more than he ever did and we have facile credit in its worst form.' It is obvious that all the difficulties of the co-operative movement have been accentuated by the prevailing depression and that the movement is now passing through very difficult times. Of course, the character of the movement is not the same all over India but as long as the movement finds it impossible to dispense with the fostering care of the official its full benefit cannot possibly be reaped.

The problem of sub-division and fragmentation has been attracting

[1] *Report on the Working of Co-operative Societies in the Bombay Presidency*, 1926-7, p. 18.

considerable attention recently and a large amount of data have been collected. It all goes to show that both these evils are universal and are progressively on the increase. The information we have is mostly contained in individual village surveys and one cannot generalize as to the extent of the evil in any particular tract. In the poorest and most precarious tracts like the Bombay, Deccan, Bundelkhand, and parts of East Punjab and the Madras Presidency the position seems to be worst. In the Konkan it is carried on to absurd limits. From tract to tract, of course, there are large variations. The evil of fragmentation is less fundamental and can, perhaps, be remedied more easily. In the Punjab, co-operative societies for the consolidation of holdings have done good work and a slow spread of voluntary consolidation may come about with a lot of intensive propaganda. Government legislation may also help and in the Central Provinces a law for the compulsory consolidation of holdings has recently been passed. It is much more difficult to prevent sub-division and all legislation attempting to solve this problem must take into account the problem of a considerable addition to the class of landless labourers. The problem is, indeed, one which has much less to do with the laws of inheritance than with growth of population. The continuous sub-division of land helps to keep a very large portion of the population on the land. Merely affecting the unit of ownership could not help, as the evil is as great in zamindari tracts where the unit of ownership is large as in the rayatwari tracts where the unit of ownership and the unit of cultivation approximate more closely. Restrictions on ownership will merely create a class of privileged persons and only increase the number of people living on rents.[1] The Bombay Small Holdings Bill,[2] the only piece of legislation that attempted to find a legislative remedy for this evil, did not seek the usually advocated path of changing the laws of inheritance. It tried instead, after providing machinery for the determination of the minimum area that could be cultivated profitably as a separate plot, to prevent the further division of old fragments and the creation of new ones. It did this chiefly by means of giving neighbours of fragments the rights of pre-emption

[1] Cf. the progress of sub-infeudation in Bengal. Panandikar, op. cit., p. 210; also see *Report of the Agricultural Commission*, p. 136, on the results of the checks on sub-division in the Punjab Canal colonies.

[2] The Bill had to be dropped on account of the strong opposition that it encountered in the local Council.

and of leasing the fragment and by prohibiting the cultivation of new fragments except in conjunction with neighbouring plots which would bring the total area up to the economic unit. This method, no doubt, is vastly preferable to the fruitless one of changing inheritance laws, but it should be observed that the creation of such rights in neighbours of fragments would give a further impetus to the movement of land from peasant proprietors to money-lenders and other big land-owners, and, more fundamentally still, it would create, exactly in proportion to the success of the legislation a new class of entirely landless labourers. A continuous sub-division helps to support a large population on land though at, perhaps, a declining standard of living and in a condition of chronic under-employment. A successful raising of the unit of cultivation will better the condition of those retained on land but it will also create a large class of completely unemployed. It is the old dilemma between the half-time for all or of discharging a certain proportion of the employees and working full time with the rest. But unless we have thought of what to do with the discharged it seems risky to try this particular experiment in the only important Indian industry—agriculture.

There was a considerable increase in the area irrigated by canals during the period under review. Many of the projects launched on the recommendation of the Irrigation Commission were completed during these years and further ambitious schemes were also taken in hand. On account of the introduction of the Reforms, 'Irrigation' now became a provincial transferred subject and the classification of irrigation works was changed at the time of the transfer. Henceforth, all works, whether major or minor, for which capital and revenue accounts are kept, were to be re-classified under only two heads: (*i*) productive and (*ii*) unproductive—a more non-committal term than the old one, protective.

Among the works completed during this period, the most important was, no doubt, the Triple Canals project in the Punjab. This was a very extensive project consisting of three connected systems of canals, the Upper Jhelum Canal opened in 1915, the Upper Chenab Canal opened in 1912 and the Lower Bari Doab Canal opened in 1913; though the different sections were opened earlier, the whole was not fully completed until 1917. Among the protective works was the system of Godavary Canals built as an insurance against famines in

the districts of Nasik and Ahmednagar and opened in 1919. Two other projects recently completed in the Bombay Deccan are the Bhandardara and the Bhatgar dams, which will considerably extend the Pravara and the Nira Canals systems. In the United Provinces the Sarda Canals system, which is expected to provide irrigation facilities for large parts of Oudh and Rohilkhand, was opened in 1928.

The most important of the works undertaken in the last decade are the Sukkur Barrage project, which has been described as the 'greatest irrigation work ever undertaken'[1], and the Sutlej Valley project, which will make secure and extend on a large scale the area under cultivation in the southern districts of the Punjab and the adjoining States of Bikaner and Bahawalpur. The main part of the Sukkur Barrage was opened early in 1932 and irrigation under it has now begun, though it will still take many years before the full possibilities of the scheme are realized. The Sultej Valley project was worked out in stages and the last stage of this project was also completed in 1932. The third big irrigation scheme, entirely in the construction stage as yet, is the Cauvery Reservoir scheme, of which the main feature is the dam at Mettur on the Cauvery. It is estimated that this scheme when completed will improve the fluctuating water supply of the existing system of irrigation in the Cauvery delta and will also greatly extend irrigation to new areas.

Progress in the present century has been almost entirely confined to large irrigation works of the types described above. From the average irrigated area under Government works of nearly 18 million acres when the Irrigation Commission reported, the area has increased until today it stands at almost 30 million acres. As is also to be expected this extension has profited only particular areas. This will be made clear from the acreage figures given below of distribution by province of the average irrigated area by Government works of all classes during the triennium 1927-30.[2]

[1] *Triennial Review of Irrigation*, 1921-4, p. 12.

[2]

	Thousand acres
Total British India	29,954
Punjab	11,201
Burma	7,278
Sind	3,640
United Provinces	3,580
Madras	1,994

It will be observed that more than 92 per cent of the total irrigated area under Government works is to be found in these five areas. The Canal systems can be developed only under certain favourable conditions and for the larger part of the country it is the minor irrigation works that are of more importance. It was expected that with irrigation being made a provincial subject more attention would be paid to minor works but this has in actual fact not happened. A few isolated attempts, such as that of the Bombay Government in appointing a special officer to look after the bandharas in Nasik and Khandesh districts, were not persisted in, and the Agricultural Commission while recording their opinion that 'much could be done to promote the development of minor works' considered that they had not 'in the past, received the attention from Government that they deserved'.

It would also seem from the figures given by the Agricultural Commission[1] that the area irrigated by wells today has not increased over that of 1902-3 and that, if anything, the area has shown a tendency to decline of recent years. The figures are partially explained by the Agricultural Commission by taking into account wells that have gone out of use owing to the extension of canal irrigation in some parts, e.g., the Punjab, but even so no distinct progress can be shown to have been made. The Agricultural Department has, of recent years, undertaken the work of sub-artesian boring and installation of power pumps so as to increase the capacity of wells. But the results of these experiments have not been extensive and the spread of well-irrigation as that of tanks, bandharas etc., remains to be pursued with vigour. Indeed in irrigation as in other departments the Government while proving its ability to undertake large schemes has entirely ignored the smaller and more local efforts which in the aggregate, however, are no less important to the welfare of the people.

Section II—*Industrial Development*

The general nature of the industrial conditions of the period under review may first be indicated. Immediately after the beginning of the war there was a set-back to the prosperity of a great many industries, e.g., cotton, coal, manganese, etc., though in the case of some others, such as tea, even this was not felt. This set-back was only temporary

[1] Appendix vii.

and soon, with the general rise in prices, the profits in industries all around began rapidly to rise. The industries working chiefly for export were, no doubt, continuously handicapped by the shortage of tonnage and in some cases the shortage of railway wagons. The shortage of tonnage was, however, more acutely felt by agricultural products than manufactured goods or minerals, and the considerable demand for the latter group in war-time made their position specially secure. As in all other belligerent countries Government control over economic activities was another important feature of the war period. This affected the different industries in different ways. In some products there was a total prohibition of export and large Government purchases at fixed prices. In the case of coal the embargo and the purchases by Government also necessitated a control of the supply and distribution of coal to the various industries through the Coal Transportation Officer. In many other industries, e.g. jute, manganese, mica and tea, large purchases on Government account helped to add to the prosperity of the industries. Broadly, the difference between agricultural producers and industrial producers is apparent enough. The war meant to the agricultural producer chiefly a loss of old export markets. To the manufacturer it meant, as in cotton and coal, a cessation of foreign competition or, as in jute, manganese and other minerals useful for munitions purposes, the creation of a special demand. The price of manufactured goods, as a whole, rose, while the rise in the price of raw materials was comparatively slight and wages rose little, if at all, during the war period. Further, the difficulties of importing machinery and other stores peculiarly strengthened the position of existing producers, and manufacturers in all industries made phenomenal profits especially during the later war years. The end of the war brought forth an immediate increase in demand for all sorts of goods. A rapid rise of prices took place and with the end of 1918 there set in a short period of extraordinary industrial prosperity. The reaction, however, came immediately after and the year 1921 was one of acute trade depression. The fall in trade activity that year was, indeed, so pronounced that even the railways felt its effects on their profits. In most industries the reaction set in by the middle of 1920, but in the cotton industry it was not felt till the year 1922. The peculiar industrial conditions were themselves largely responsible for bringing

about the unprecedented boom and the severe depression afterwards, but the effect of both these movements was further intensified by the acute exchange difficulties of the post-war period.

Exchange fluctuations have throughout this period played an important part in economic events. By 1917 the Government of India found it impossible to maintain the gold exchange standard and the old ratio of 1*s*. 4*d*. Owing to the rise in the price of silver, the bullion value of the rupee exceeded 1*s*. 4*d*. and in August 1917 Government definitely gave up the attempt of keeping the exchange pegged at that level. Henceforward the fluctuations in the rupee exchange depended largely on the variations in the price of silver and from 1917 to 1920 the exchange rose steadily. This did not have, however, an immediately adverse effect on India's foreign trade. The prices of the important Indian products which had kept down during the war rose enormously by the year 1919. The famine of 1918-19, currency inflation and the enormous trade activity all helped towards bringing about this rise. The exchange which had moved up to 1*s*. 5*d*. in August 1917 went up to 1*s*. 6*d*. in April 1918. In spite of this slight increase the year 1918-19 closed with a favourable balance of trade. With the opening of 1919 Indian products found from outside countries a very keen demand. In spite of the higher Indian prices and the unfavourable rate of exchange, exports in the year 1919-20 reached very high figures. This was specially the case with the raw materials for different industries in Europe and other places, which were all experiencing a trade boom, such as hides and skins, raw jute, oil-seeds, dyeing and tanning substances, lac, etc. There were also large exports of jute manufacture and, because of the rise in the price of silver, the China yarn market continued strong. Imports did not rise correspondingly, chiefly through the difficulty of obtaining immediately the manufactured and other goods which formed the bulk of India's imports. The year 1919-20 was one of enormous trade activity all over the world and the optimism of the moment, the hope of continuation of the high level of war profits, the rising level prices, the hopes of a suddenly increased demand left unsatisfied during war-time, induced manufacturers all over the world to expand their output and plan large extensions. New companies were floated and large orders placed with foreign countries, especially England, for machinery and other stores. These orders were being

placed from all over the world and those countries like Great Britain which were the chief suppliers were unable to meet this enormous demand immediately. The inability to get deliveries meant that orders were duplicated and there was also a lot of speculative placing of orders. In the case of India the situation was still further aggravated by the fact that a continuously rising exchange further stimulated imports. The exchange rose to 1*s.* 8*d.* in May 1919 and then steadily to 2*s.* in September 1919 and reached its highest point of 2*s.* 4*d.* in April 1920. The high exchange encouraged importers and they were induced to expect a continuation of high exchange conditions by the acceptance by Government in February 1920 of the recommendations of the Babington-Smith Committee to peg the exchange at 2*s.* to the rupee. During the year 1919-20 the inability to get prompt deliveries kept the value of imports down and the fiscal year ended with a considerable balance of payments in favour of India. But already by April 1920 the boom was breaking all over the world. The 1919-20 boom was a price boom, based on the expectation of a rapid recovery of demand from all countries of the world and a continuation of war profits and was intensified by the inflationary policies of Governments and by the fact that in 1919 the productive capacity of the world had been considerably lessened by the war. As these expectations were not fulfilled the tide began to turn in all countries beginning with Japan in 1919. Wages and other costs had rapidly risen with the rise of prices and the continent of Europe was unable to absorb any large quantities of raw materials as its industries were not yet rehabilitated. During the opening months of 1920 the action of the treasury in England checked the rise of prices there and the period of short-lived prosperity came to an end. In India exchange troubles aggravated the situation still further as they had intensified the boom in the previous year. The rise of exchange had been due chiefly to the rise in the price of silver. In February 1920 this reached its highest point and then began to decline. This naturally affected the exchange, and from April 1920 began a headlong fall in the rupee exchange. By December 1920 the exchange had reached 1*s.* 6*d.*, and by May 1921 it came down to the record low figure of 1*s.* 3*d.* The inability of the old European customers of India to buy any large quantities of her produce, combined with the effects of the high exchange of the previous year and the unfavourable

agricultural conditions of 1920-21, brought exports down to a low level, while the orders placed during the previous year were now coming to hand. Thus in 1920-21 the imports of such articles as hardware, instruments and apparatus, machinery and mill-work, metals, motor cars and cycles, railway plant and rolling stock, reached record heights and continued at a high level even in 1921-2. (The value of imports of machinery and mill-work was a great deal higher in 1921-2 than even in 1920-21.) These imports were the results of orders placed during the boom period and had the effect of still further increasing the productive capacity of industries at a time of falling demand. Amongst other imports the figures for cotton piece-goods for the year 1920-21 are especially remarkable. The average imports of piece-goods, chiefly from Lancashire, during war-time had sunk, in quantities, much below the pre-war level. The demand was, therefore, active at the close of the war and importers, taking advantage of the high exchange, had placed very large orders abroad. These high-priced goods, ordered under the influence of the boom and the expectation of a favourable exchange, began to arrive in large quantities in 1920. The exchange then began its downward slide, prosperity had vanished and the importers found themselves in most acute difficulties. These came to a head by December 1920 when the Native Piece-goods Association of Bombay decided that no importer should settle any contracts at a rate lower than two shillings to the rupee. This was virtually a repudiation of contract obligations and the example of Bombay merchants was soon followed by importers of piece-goods in Delhi, Amritsar and other centres. This step still further deepened the feeling of 'no confidence' in most commercial centres in India.

As has been often pointed out above, Indian economic well-being is determined, on the whole, more by the agricultural season than by the industrial cycle. The events of 1865-7 in the cotton and tea industries may be said to constitute one of the first examples of the modern type of boom and depression in industries in India. India's manufacturing industry is, however, so small and so scattered that it is difficult to trace general contemporaneous movements throughout the country's industries. One of the first industrial movements having an all-India significance was the general wave of optimism that pervaded Indian industry in 1907, the result in a large measure of the

swadeshi movement. Many schemes for starting various manufactures in India and for financing trade and industry were then floated. A general failure of the banks formed at this time, especially in the Punjab and the Bombay Presidency, was a marked feature of the year 1913. The movement denoted by these failures, however, was mainly financial and had not any permanent effect on the industries of the country. The miscellaneous manufactures starting in and after 1907 had mostly failed earlier. The war, however, created anew conditions generally favourable to the progress of Indian industries and at the end of the war everything was in readiness for a boom.

The extent of this boom was entirely unprecedented. The statistics of company floatation give some idea of this. In the year 1919-20, 905 companies with an aggregate authorized capital of about 275 crores of rupees, and in the year 1920-21, 965 companies with an aggregate authorized capital of about 146 crores, were newly registered in India. The total number of registered companies in India in 1913-14 was 2,681 with a paid-up capital of nearly 76 crores of rupees; in 1918-19 it was 2,713 with a paid-up capital of about 106 crores of rupees; and in 1921-2 the number was 4,781 with a paid-up capital of 223 crores of rupees.[1] The figures are what would have been expected. During the war few companies were floated, but there was a considerable increase in the capital of the existing companies, whereas during the three post-war years the number of companies increased by 75 per cent and the paid-up capital was more than doubled. Of course, most of this growth was not healthy joint-stock enterprise and in the years following there was much weeding out. But, at the moment, owing to the extraordinary optimism prevailing, the shares were freely subscribed to. There was much reckless and fraudulent floatation. The value of industrial securities, especially of the jute and cotton mills and manganese and cement companies, rose extraordinarily high. The temper of the investing public is made clear by the following quotation : 'The shares of the Tata Bank were at Rs 90 premium when only Rs 15 were paid up and no reserve fund at all. The Tata Oil Mills share of the face value of Rs 100 was quoted at Rs 575 premium, even before the

[1] These figures relate only to British India.

erection of the machinery for the working of the Mills.'[1] This might be taken as an instance of an extraordinary confidence of the investor in Tatas. But in many cases there was also considerable underhand manipulation which led the Native Share Brokers' Association fervently to declare in their evidence: 'It is, however, much to be wished that Directors and agents of companies should religiously refrain from speculating in the shares of companies they manage.'[2] April 1920 was generally the peak of the boom in India. It then broke and there followed for most industries a period of depression and for the trade in general a long period of 'no confidence'.

It may fairly correctly be stated that the depression has never completely lifted itself during the ensuing period. India did not share with some other countries of the world the period of prosperity after 1924. Chiefly owing to currency policy the price level did at no period look up. The prices remained depressed and so did the condition of the agriculturist. Towards the end of 1927 there were a few signs of returning prosperity but with the world slump setting in towards the end of 1929 conditions again worsened rapidly. Though the agriculturist has been hit the hardest, in the case of many industries also the effects of the depression have been severely felt. The history of all economic activity has naturally not been uniform. For example, tea recovered early from the post-war depression and had a good period till 1929; the cotton boom, on the other hand, lasted longer and so did the subsequent depression in that industry.

To a certain extent the currency policy of Government has been responsible for the lengthening of the post-war period of depression. The rupee, which had sunk below the pre-war level in December 1920, remained at a low level from early 1921 to early 1923. It then began to rise slowly reaching 1*s.* 6*d.* (sterling) in September 1924, approximately equal to 1*s.* 4*d.* gold, the pre-war parity. The upward movement was, however, still kept up, parallel with sterling; and thus, though nominally between the months of September 1924 and April 1925 ratio 1*s.* 6*d.* was kept steady, there was really an appreciation of the exchange by the latter date to 1*s.* 6*d.* gold when the gold standard was restored in the United Kingdom. The effects of this currency policy were apparent throughout these and the follow-

[1] *Bombay Stock Exchange Enquiry Committee Report*, Appendix 5 (1924).
[2] Ibid.

ing years, and almost every industry, or the Tariff Board in almost every industrial inquiry, had to complain of the effects of a high exchange. The pegging of the exchange by Government at a parity even higher than pre-war may be taken as one of the contributing factors to a prolonged period of general post-war depression. The causes of the world depression since 1929 originated mainly outside India and its course shows how intimately economic conditions in India have come to depend on industrial and trade activity in other countries of the world.

The cotton industry of India had prospered during the opening years of the twentieth century and it continued its progress during the war years. On the eve of the war the industry was not in a very good position as it was just recovering from the shock of the 1913 bank failures, and the opening year of the war was unfavourable to both the spinning and weaving departments. The depression, however, slowly began to lift and the cotton industry by the beginning of 1916 was in a prosperous condition. The condition of the Lancashire industry was difficult, with freights high and larger revenue duties imposed on imports into India. In the home market the Indian industry thus found conditions of good demand, high prices and little competition from outside. This was also the case with neighbouring countries like Persia, Mesopotamia, East Africa, etc., where Indian manufacturers found their markets rapidly expanding. There were certain difficulties like the high prices of stores, dyes, etc., and the difficulty of obtaining coal, but wages showed no tendency to rise and on the whole costs kept well below the level of prices of yarn and piece-goods. As in other industries the difficulties of obtaining machinery, etc., prevented any large increase in the number of mills. Production, especially of piece-goods, increased enormously to meet the enhanced demand. There was no increase in the number of spindles at all, while the number of looms between 1914 and 1920 increased by about 15 per cent, and the production of woven goods by 46 per cent.[1] Exports of Indian yarn were already in a stationary condition before the war and during the war years transport difficulties and the competition of Japan and of the newly established Chinese spinning industry in India's chief yarn market, China—added to the

[1] Coubrough, *Notes on Indian Piece-goods Trade* (1921).

fact that the keen demand for yarn in the Indian market led to a neglect by Indian producers of the foreign market—resulted in reducing yarn exports to a very low level. In spite of this the total production of yarn actually increased slightly during the war period, as Indian mills were producing greatly increased quantities of piece-goods.

Imports of piece-goods fell from an average of 2,632 million yards per annum during the quinquennium preceding the war to an average of 1,841 million yards during the war years. The imports of piece-goods were usually of the higher quality and a fall in these led to an accentuation of the tendency noticed before for the Indian industry to increase the production of the better class of goods. The production of coloured goods in particular increased during the war period by more than 50 per cent over the pre-war average. The broad tendencies noticed during the previous period, that of a larger attention being paid to the production of piece-goods than of twist and yarn and the turning out of a finer quality of goods, were further pushed on by the conditions of the war period. This tendency towards the production of finer goods is exemplified by the production in Indian mills of a finer quality of Indian twist and yarn. The war production of counts 1*s*. to 20*s*. declined below the pre-war level. On the other hand there was a considerable increase in the production of all the higher groups—21*s*. to 30*s*., 31*s*. to 40*s*., and above 40*s*. It should be observed that this does not mean an increase in the Indian consumption of better quality cloth. As a matter of fact, both during the war and the quinquennium following the war, the total consumption of cloth as well as the average quality of cloth consumed in India were well below the pre-war level. But the demand for the finer qualities before the war was met almost entirely by imports, which were very considerable. During the war period these imports were checked in a large degree and the demand thus left unsatisfied had to be filled by Indian production. This was done by a large production of coarse goods and by a more than proportionately increased production of finer varieties. Though the production of counts below 20*s*. during the war period was much below the pre-war average, the exports of yarn having fallen to even a lower level, the total quantity of yarn of these counts retained in the country was actually larger than the pre-war average.

The post-war boom in the cotton industry was of a much longer duration than the boom in other industries. The boom was based, at least partly, in the case of the cotton industry, on a genuinely increased demand for cloth. The net amount of cloth available in India for consumption during the pre-war quinquennium, excluding hand-loom products, was an annual average of 3,567.6 million yards, while the similar figure for the war period was 3,024.5 million yards. There is reason to believe that the production of the hand-looms also decreased slightly during the war period and thus there was a considerable decrease in the total amount of cloth consumed during this period. This meant a large accession of demand at the close of the war. Cloth prices also mounted up with the prices of other goods. The annual average prices of cotton manufacture for the three years 1918, 1919 and 1920 were three times as much as the prices in 1914. Wages on the other hand lagged seriously behind and it was not till 1920 that any considerable increase was granted in them. With the end of the war the competition of imports would, no doubt, have been more keen, but on account of special considerations this was not felt for the years 1918 to 1921. The main exporters of cotton piece-goods to India are Lancashire and Japan. It is not necessary here to enter in detail into the question of how far these imports compete with Indian goods. In the period before the war the imports of piece-goods from countries other than England were negligible. And it was believed that the productions of Indian and English mills did not largely enter into competition with each other. India confined her attention to the production of coarse yarn and piece-goods and Lancashire imported into India the finer varieties. The sphere of competition was sometimes estimated as low as only 2 per cent, while, according to an inquiry conducted by an officer of the Indian Customs Department, the area of competition would amount to nearly 26 per cent. This latter, however, was thought to be an over-estimate.[1] The Tariff Board in its inquiry in 1926 also found it impossible to arrive at any definite conclusion. It may, however, be safely assumed that, while in the pre-war period the markets for Indian and English goods were mainly separate, the expansion of the industry and its tendency towards the production of finer goods was

[1] Ainscough, *Review of the British Trade in India*, p. 97 (1921).

increasing the sphere of competition. The chief competition feared by Indian industry in the pre-war period was in the marketing of yarn, that from Japan in the Chinese market. Japan as an exporter of yarn and piece-goods to India became important only in the war period. The Japanese imports of piece-goods, which amounted to little over an average of 3 million yards in the pre-war quinquennium, rose to an average of over 97 million yards in the war period. The war gave a real opportunity to the Japanese industry and it was seized eagerly. From 1916-17 imports from Japan of cotton goods into India began to rise very rapidly. This rise in imports was not felt by the Indian industry at the time, as the amount of these imports was not very considerable, and the diminution in the imports from Lancashire had left a large void in the supply. The Lancashire imports had steadily declined throughout the war period, reaching a very low level in the year 1918-19, in which year also Japanese imports attained a higher level than they ever reached before. In the first year of the post-war period (1919-20) the United Kingdom imports recovered slightly, but Japanese imports, on account chiefly of the severe industrial depression in that country, sank phenomenally low. So that, though the end of the war made importation easy, there was little competition with Indian mills immediately. In the next year (1920-21), however, Japanese imports began a rapid recovery, large stocks of goods left on hand during the depression being imported into India at low prices. It should be observed that the rise of the exchange during 1919-20 did not seriously affect the fortunes of the cotton mill industry. The industry benefited from the high exchange to the extent that it lessened the cost of imported stores. In the China market the position was not changed as China was a silver-using country. It was only in the gold-using countries that the position of Indian exports was undermined. At this time a strong home demand made the Indian industry insensitive to a fall in the demand for exports. If, however, the high exchange had continued for some time longer it would certainly have affected the Indian industry adversely as was made clear by the large orders placed at this time by Indian importers in Lancashire. The exchange fell at, for the industry, an opportune moment, with the result that the price of cotton manufactures in India did not decline with the prices of other commodities. Though the prices of piece-goods abroad were

falling in the case of imports of those into India, this was neutralized by the continuous fall in the exchange and it was not till 1921 that a decline in cloth prices in India really set in. A large number of companies were floated during the boom period but most of these found it difficult to get immediate supplies of machinery, etc., and there were no large extensions or expansions completed and therefore no additions to productive capacity before 1922.

All conditions were thus favourable for a fairly long period of prosperity for the Indian cotton industry. For the three years 1919, 1920 and 1921 the industry enjoyed abounding prosperity and the level of profits was extraordinarily high.

The depression in the cotton industry that set in after 1922 was the natural result of the economic conditions of the post-war period. The recovery in the demand for piece-goods which was a feature of the year immediately after the end of the war, could not be expected to continue for a long time, especially after conditions of general industrial depression had set in and when the agriculturist was still in a depressed position. It has been often pointed out that the average Indian buyer of cloth has only a certain amount of surplus available to be spent on clothes ; and, if the price of cloth goes up very high without a corresponding increase in his income, he must needs curtail his purchases. This is why the total consumption of cloth in India, which may be estimated at about 480 crores of yards in the pre-war India, had fallen to nearly 400 crores of yards both in the war period and the post-war quinquennium. The fall in cloth prices began in 1921 ; the exchange had already reached its lowest point and the largest price-fall came about in the year 1921-2. Since that year, however, the fall has continued steadily, till in 1931-32 the declared value of imported goods—especially grey goods which is the most important class of Indian mill production—was almost on the 1913-4 level. Wages also had gone up during the boom period and they would not come down easily after the period of prosperity had passed away. This was a specially marked feature of the Bombay industry ; in other centres wages came down with more ease than in Bombay. As usual in most depressions, the situation was worsened by the fact of a large increase in the productive capacity of the industry after the period of prosperity had passed away. The high level of post-war profits had induced many promoters to float projects for

starting new cotton spinning and weaving mills. The rush of orders for machinery, mill-work, etc. during the boom had prevented supplies of these reaching India earlier and it was only in 1920-21 and 1921-2 that deliveries came in large quantities. Thus the actual effect of the new extensions and of the new producers began to be felt only in 1922 and after. The new concerns started had, of course, incurred capital expenditure at the boom level of prices and these high capitalization charges were still further increased in most cases by the turn that exchange took in 1920. The Tariff Board point out that the high level maintained by the prices of American cotton throughout this period affected the prices of Indian cotton and was also a contributory cause. The low exchange also may be said to have intensified the difficulties of the industry. These were all-India features and had an all-India effect, though the degree of this varied. For, as the Tariff Board pointed out, though the Bombay industry was working at a loss for almost the whole of the period from 1923 to 1926, a number of the more efficiently managed mills in other centres were regularly paying dividends in these same years.[1]

The state of depression continued for almost the whole of this period. But curiously enough the cotton industry has suffered less from the effects of the general world depression of 1929 and after that the Indian agriculturist and other sections of Indian industry. A number of special causes such as political movements, tariffs, etc., have helped the industry and enabled it to increase its productive capacity even though during none of these years could it be said that the profits earned by the industry were, on the whole, satisfactory.

The factors enumerated in the above paragraph are common features of any downward trend of the industrial cycle. But the novel and dominant feature of the cotton industry situation in the post-war period has been the ever-increasing importance of Japanese competition. The war gave a splendid opportunity to Japanese industry and the exports of cotton piece-goods from Japan during this period showed a remarkable increase. The first year in which

[1] *Report of the Tariff Board on the Cotton Textile Industry* (1926). This feature has continued throughout the succeeding period and even during the present depression new mills are being rapidly floated in some centres like Ahmedabad and the older mills are paying at times surprisingly high dividends. See for example *The Indian Textile Journal*, February 1933, 'The Working of Ahmedabad Mills'.

these imports were remarkable was 1916-17 and with 238 million yards in 1918-19 they reached an abnormal figure. Immediately there was a huge reverse which lasted for two years; since 1920-21 the advance has been continuous; the 1918-19 record was passed in 1926-7. Imports still continued to increase and reached the record high level of 592 million yards in 1929-30. Japan, indeed, has been invading sphere after sphere of the cotton piece-goods market. In grey goods its imports now exceed those of the U. K., in coloured goods it has made very considerable progress and since 1930-1 it has even entered the white goods market seriously. In yarn production Japanese competition is not serious in counts below 30*s*. As a matter of fact imports in this class have always been very small and the Indian home market secure. It is chiefly in counts between 31*s*. and 40*s*. and in counts above 40*s*., to which Indian industry has paid increasing attention in recent years, that competition has been keenly felt. The Tariff Board (1926) found that though the sphere of competition of Japanese imports with Indian yarn production was small the competition of Japanese yarn exercised a depressing effect on the price of all Indian yarn. The competition in piece-goods is much more difficult to determine. In a note written at the time of budget discussions in 1930 the Commerce Member estimated that approximately 12½ per cent[1] of the imports of cotton piece-goods from the U. K., 90 per cent of the imports from Japan, and 40 per cent of those of other countries, competed directly with Indian goods. These estimates were based chiefly on the investigation conducted in 1929 by Mr Hardy. Mr Hardy made a detailed study of the various classes of competitive goods and indicated his conclusion that the competition in coloured goods was less severe than in greys; but as pointed out in the representation made by the Bombay Millowners' Association to the Tariff Board (1932), since 1927 substantial progress had been made by Japan even in this latter class. The vigorous Japanese industry has by its imports exercised a continuous depressing effect during the whole of this period on the prices that could be obtained by Indian mill products.

During this period of depression the Bombay industry has occupied a peculiar position. The Indian cotton mill industry began in Bom-

[1] The Bombay Millowners' Association in the representation submitted to the Tariff Board in 1932 contested this figure as an underestimate.

bay and Bombay Island has always been the chief seat of that industry. Its position was predominant in the nineteenth century but of recent years the industry has become more scattered. In 1904-5 the proportion of yarn spun and cloth woven in Bombay to the all-India output was 58 and 55 per cent respectively ; in 1913-14 the same figures stood at 52 and 51 per cent. The geographical conditions of the island are an important limiting factor and there are certain other peculiar disadvantages such as higher taxation and higher costs of labour. These are, however, offset to a certain extent by advantages with respect to imported stores, imported cotton and some other expenses. The most remarkable expansion in the post-war decade has been in Ahmedabad but other centres such as Madras, Sholapur, Nagpur, and Cawnpore have also expanded and mills have been built in isolated localities all over the country. Mr Hardy in his investigation in 1929 went even into this question and thought that the year 1927-8 typified the normal relations which may be expected between the Bombay Island and other Indian centres of production when full working in Bombay is resumed. In 1927-8 the total Indian production was shared as follows between the various centres : Bombay Island 49 per cent ; Ahmedabad 22 per cent ; other mills in the Bombay Presidency and adjoining areas 21 per cent ; elsewhere 8 per cent. It should, however, be noted that whereas in Bombay there has been an actual falling off in production since 1927-8, there has been an increase in all the other centres and new mills have been under construction outside Bombay throughout these years.

Some of the peculiar disadvantages of the Bombay industry have already been mentioned. Further, the Bombay industry has been much more non-progressive than its status and its position warrant. It has, for example, stuck to comparatively coarse production which is more unprofitable instead of naturally going on steadily in the direction of finer production. In this case the Tariff Board compared its position unfavourably with that of the Ahmedabad industry. The Bombay industry needs must be progressive if it is to continue to be prosperous. For it has continuously to expand its markets and keep them. It has no natural local markets as most of the other scattered centres of Indian industry have, and, therefore, its advantage over the foreign competitor is not considerable. An example given by the Tariff Board will make this clear. The one-way railway freight on piece-goods

from Bombay to Sholapur (a distance of 283 miles) is exactly the same as the freight on raw cotton from Bombay to Japan and of piece-goods from Japan to Bombay together. Though Bombay had some advantage over the other centres in getting better railway rates for long-distance haulages throughout the country, it had no definite local market where its position was distinctly assured, and the fact that it did not produce goods of a superior quality to the up-country centres made the situation worse. Bombay had, therefore, more to rely on, and had in the pre-war period naturally based itself more on its export markets.

The most important foreign market for the Indian cotton industry before the war was the China market for yarn. The average yarn exports from India in the pre-war quinquennium were 193 million pounds, of which China took nearly 170 million pounds. Indian production of cotton twist and yarn for the same period was nearly 647 million pounds, and thus about 30 per cent of the total yarn produced in India was exported. As pointed out before,[1] the greatest development of the yarn trade in China had taken place in the eighties of the last century, since when, however, the market had not been a progressive one. The boom in the cotton industry during the opening years of the twentieth century was chiefly a yarn boom, but the violent fluctuations in the demand from China had led the mills to develop more and more their weaving departments. An enormous change came over this trade during the period under review. Even before the war, India had found it difficult to meet the competition of Japan in the yarn market. War conditions still further increased the difficulties of the export trade and led also to the development in China itself of a vigorous spinning industry. There has been since 1914 a rapid and inevitable decline of the total Indian export of yarn. The war average was 130 million pounds; the post-war average 82 million pounds, and in recent years exports have amounted on an average to less than 25 million pounds. China has ceased entirely to buy Indian yarn now and has on the contrary become a substantial exporter of yarn to India. The position in this matter has thus been curiously reversed. India now exports only a very small proportion of its yarn production, most of it being absorbed in the Indian

[1] *Ante*, p. 72.

weaving sheds and the Indian yarn market. The history of the export trade in piece-goods is different from that of the export trade in yarn. The extent to which Indian industry depended on its export markets in the piece-goods trade was before the war comparatively small—exports being in the pre-war quinquennium only 9 per cent of the total Indian production. Further, the trade depended not chiefly on one market, but on a series of markets, of which the chief were Persia, Iraq, East Africa, the Straits Settlements and Ceylon. During the war the trade increased considerably and the increase was kept up in the post-war period, the average for these periods being 155 and 164 million yards respectively. There has been no important change in the direction of this trade during the period under review, but there has arisen an important change in its nature. Before the war the share of grey goods in exports was slightly larger than that of coloured goods; during the war the share of coloured was slightly larger than that of the greys. Since the war, however, grey goods have rapidly declined in importance; so that though the total exports have increased, the quantity of grey goods now exported is much below the pre-war average. The average for the two years 1930-31 and 1931-32 was an export of nearly 9 million yards of grey goods and 91.7 million yards of coloured goods. The reason for this change is Japanese competition. The recent Trade Mission to the Near East and East Africa report that Indian prices for grey goods prevent India from retaining her present market or expanding it in competition with Japan, and it is chiefly in the inferior qualities of goods dyed in the piece or in the yarn that she can really hold her own with other competitors. Even though the Indian export trade in piece-goods has increased somewhat in the post-war period this increase has not been proportionate to the increase in the production of piece-goods in Indian mills; and the loss of the yarn market has been a net loss. This has made the position of the Bombay industry specially difficult by forcing it to rely almost entirely on the home market.

Among other reasons which made the situation of the Bombay industry worse than that of the other centres was reckless financial management in the boom period, especially in the matter of over-capitalization. In most other centres over-capitalization, when it occurred, was chiefly due to extensions or new erections at inflated

prices, while in Bombay it was due largely to changes in managing agencies and in capital. The classic instance of this is, of course, the sale of the Sassoon group of mills, whose book value was computed at about Rs 2.75 crores, to a syndicate, formed for the purpose, at Rs 6 crores.[1] It is natural, therefore, to find the Bombay Millowners' Association taking the initiative each time in asking for the grant of protection to the industry against Japanese competition. The first application was made in 1926,[2] and the report of the Tariff Board which considered this application contains a full account of the position of the Bombay industry. The Board made various recommendations regarding remedial measures affecting internal economy and improvements in organization that could be adopted by the industry. The Board also recommended certain measures of fiscal aid. These recommendations were rejected by Government which only changed the 5 per cent *ad valorem* duty on yarn to 5 per cent *ad valorem* or 1 ½ anna per lb whichever was higher. This would have the effect, it was thought, of giving special protection to yarn of counts 31*s*. to 40*s*. in which Japanese competition was keenest. This measure of yarn protection was found to be insufficient and Japanese competition still continued to grow in intensity. The Bombay industry was still further handicapped by long drawn out and bitter strikes in the years 1928 and 1929. In 1929 the question of protection was further pressed and this resulted in the appointment of Mr Hardy to report specially on the question of substituting the system of specific duties for the existing system of *ad valorem* duties and he was also asked to report generally on the question of the competition of imported cotton manufactures. Mr Hardy found that the progress of Japanese imports had been rapid and uninterrupted since the Tariff Board reported and the Government of India were again pressed to grant protection to the cotton industry. This protection was granted in 1930. The revenue duty which had been 11 per cent since 1925 was increased to 15 per cent on British goods and to 20 per cent on non-British goods. This step was justified on the ground that as the Indian industry had grown of late years chiefly at the expense of the British industry even with an 11 per cent duty, a duty of 15 per cent would

[1] *Report of the Bombay Stock Exchange Committee*, App. 5 (1924).

[2] Some relief had earlier been granted to the industry by the suspension of the Cotton Excise Duty in December 1925 and its subsequent abolition.

provide adequate protection to the Indian industry against the competition of Lancashire; while against Japanese competition it was necessary to provide a higher protective wall. This general scale was subject to the exception that grey goods whether British or non-British were subject to a minimum specific duty of 3½ annas per lb. Further protection was accorded the next year as a result of the revenue needs of Government and the duties were raised in March and October 1931. The general scale of duties on piece-goods at the end of 1931 thus stood at 25 per cent on British and 31¼ per cent on non-British goods, with specially high duties on artificial silk piece-goods imposed at the request of the mill-owners in 1931. But even this was not enough and Japanese imports continued to increase and to depress prices, chiefly, it was said, as a result of the depreciated exchange. Another appeal was made to Government and the Tariff Board was asked to report on the question. The Board reported in the middle of 1932 recommending the increase of the duty on non-British goods to 50 per cent as a temporary measure. This was immediately granted and the need for a measure of more permanent help is now being considered by the Board.

The Indian cotton industry has expanded enormously during the period under review. While the average production of cotton piece-goods during the five years just before the war was about 1,105 million yards, its average during the three years 1929-30 to 1931-2 was nearly 2,650 million yards. It is difficult to estimate the production of hand-looms, but if the rough estimates sometimes made are to be relied on,[1] it would seem that production from this source was, in the pre-war period, somewhat under 1,200 million yards, during the war period about 1,000 million yards, and that the production in the post-war decade has been on an average rather above 1,200 million yards.[2]

There was no increase in the number of mills, spindles and looms possible during the war period, but the increase in all these during the decade after 1920-21 has been remarkable as the following table will show.

[1] See for example, K. S. Rao, *A Note on Hand-loom Weaving in India* (1924).

[2] Sir George Schuster in his speech introducing the budget proposals for 1933-4 in the Legislative Assembly estimated the hand-loom production for the 10 years ending 1930 to be on an average 1,246 million yards per annum, and the hand-loom production in 1932 at 1,500 million yards.

Year	No. of mills	Spindles	Looms	No. of hands
1920-21	257	68,70,804	1,23,783	3,32,179
1925-6	334	87,14,168	1,59,464	3,73,508
1930-31	339	93,11,953	1,82,429	3,95,475

These figures, of course, do not give any indication of productive activity. The increase in the number of mills during the first five years was largely a result of the post-war boom and as the new machinery was erected largely after the boom had passed there was not a proportionate immediate addition to production. The period between 1921 and 1925 was one of comparatively low production,[1] while the period from 1925 onwards has been one of relatively high production in spite of the slump and even when the industry all over the world is extremely depressed. While production in the Indian industry has increased enormously imports have correspondingly fallen so that Lancashire has lost ground both to Japan and to India in the Indian market. In the review of the trade of India for the year 1931-32 certain estimates have been made of the quantity of mill-made cloth (production and imports) available for consumption in India. These figures even though they do not take stocks into account are extremely interesting. They are as follows in million yards. For the year 1913-14........4210.1 ; 1929-30........4182.7 ; 1930-31 ....3336.0 ; 1931-2........3645.2. This shows that, provided there has been no phenomenal increase in production on hand-looms, the consumption of cloth in India is not keeping pace with the increase in population. A notable feature of progress especially in recent years has been the great push towards finer spinning, diversification of production and the production of finer piece-goods. The average count of yarn spun in Indian mills during the year 1931-32 was 20.5 as against 18.4 in 1925-6. And though it is not possible to adduce similar statistical evidence in the case of piece-goods, the greater production of such piece-goods as dhotis, cambrics, lawn, etc., showed a similar tendency at work there.[2] There have also been recently fairly large and growing imports of African and Egyptian cotton for the purposes of finer production by Indian mills and if all these tendencies

[1] D. B. Meek, *Some Statistics relating to Production in the Cotton Piece-goods Industry* (1931).

[2] Representation of the Bombay Millowners' Association to the Tariff Board (1932), p. 28.

continue to work out successfully there does not seem any immediate obstacle to the continued growth of the Indian cotton industry.

The jute industry of India has always been in a peculiarly favourable position and the war strengthened its position still further. For by diminishing the possibilities of raw jute; while the demand for the manufactures of the industry increased considerably on account of the war-time need of sand bags, grain bags, gunny cloth, etc. It should also further be borne in mind that the position of the already existing factories in most industries during the war period was peculiarly fortunate. On account of prohibitive freights and the difficulty of obtaining supplies of machinery and stores, the likelihood of new competitors coming into the field was extremely remote. Though a number of new companies were floated during this period, only some 200 looms were added to the working total.[1] The jute industry during this period worked to a very large extent to Government order, and to ensure enhanced production Government suspended the operation of certain sections of the Factory Act in the case of this industry. During the later stages of the war, exports of raw jute were prohibited except under a licence and the Indian mill consumption of raw jute increased rapidly. Indian mill consumption of raw jute, which was approximately 44 lakhs of bales in the year immediately before the war, rose to an average of 55 lakhs during the year 1915 to 1918; and exports, on the other hand, dropped to the phenomenal figure of 17 lakhs of bales in 1917-18. The price of jute, during this period, did not rise at all and the wage level also lagged behind. In the circumstances, it was natural that the jute mills should reap enormous profits. In spite of a phenomenal increase in the reserve and depreciation funds, the level of profits reached was incredible. The ratio of net profits to paid-up capital of the jute mill, as calculated by the Director of Statistics, was 58 per cent in 1915, 75 per cent in 1916, 49 per cent for 1917 and 73 per cent for the first half of 1918. This last, as the Director remarks, is easily a record figure.[2]

These conditions could not last for ever, and immediately after the end of the war the jute industry was faced with a crisis. War orders ceased, and this meant a considerable diminution in the

[1] D. R. Wallace, *Romance of Jute* (1928).
[2] *Review of the Trade of India*, 1917-18, p. 21.

demand, though Government at the conclusion of the war took over all existing stocks made on war account. The price of raw jute and wages could not for ever remain at a low level and they began to mount up. The high level of war profits led to new companies being floated and large extensions were projected by the old companies as soon as supplies of machinery, etc., should become available. Another difficulty encountered by the industry at the beginning of the post-war period was the serious shortage of supplies of coal, and many mills had, during 1919 and 1920, to close down periodically on account of this shortage.[1] The main cause of the troubles of the industry was the world-wide depression in trade and industry and the consequent falling off of the demand. As a result, short-time working agreements began to come into force from the middle of 1919 ; there was a slight recovery in 1920, but from April 1921 it was again found necessary to resort to short-time, and the agreement to work only four days in a week that was then adopted was continued till 1929.[2] Even this, however, was not enough, the curtailment in production was not decisive as extensions planned since the Armistice began to make their effects felt, and in 1924 the jute mills had to come to a 'no extension' agreement. In spite, however, of post-war difficulties, considerable progress was made by the jute industry during this period. The expansion of war-time was well consolidated, the war average of jute consumption was kept up and the exports of jute manufactures maintained their very important place in the exports of India. In fact, jute manufactures are the only important Indian manufactures now exported out of India forming, as they did in 1930-31, 14.46 per cent in value of the total value of merchandise exported. The jute mills during this period profited immensely from

[1] *Report of the Indian Jute Mills Association for* 1920.
[2] The extent of the post-war expansion of the industry is made clear by the following figures :—

	1914-15	1918-19	1918-24	1929-30
No. of Mills	70	76	89	98
,, Spindles	95,528	839,919	1,043,417	1,140,435
,, Looms	38,379	40,043	49,038	35,900
,, Persons employed ...	238,274	275,500	330,408	343,257

their close-knit trade organization. Their quasi-monopolistic position has always made them immune from severe competition of other countries and the wise policy of building up proper reserves, etc., during war-time and restricting production in accordance with demand has further saved the industry from the extremely troublous times experienced by all other industries in the post-war era. Even this organization, however, could not stand entirely the strain of the great world depression after 1929. The jute mills having worked a 54-hour week for a long term of years found their stock position eminently satisfactory by the end of 1928 and therefore decided to increase the working week to 60 hours from July 1929. Unfortunately, however, this increase in production coincided exactly with the beginning of the slump in agricultural prices. With the decline in international trade, especially in agricultural commodities, the demand for jute manufactures slumped heavily and at the end of a year's full work the jute mills found their stock position alarming. The 1929 jute crop was already larger than the needs of world trade and in 1930 there was a bumper crop of jute with a record output. This brought about a sudden fall in the price of raw jute which further increased the difficulties of the industry. Strenuous propaganda brought down jute acreage sharply in 1931 but even the very low production of that year could not force the prices up. In 1930 the Association had to resume the 54-hour week and by the beginning of 1931 it had already been forced to go on to a 40-hour week with the further provision of sealing 15 per cent of the looms. This brought about trouble within the members of the Association itself and between the Association and non-Association mills. These disputes aggravated the situation still further and it was only since August 1932 that an agreement has been at work between the Association and non-Association mills regarding restriction of output.

The changes in mineral production in India during the period under review have been revolutionary. The period has witnessed the secure establishment of the most important metallurgical industry—the manufacture of iron and steel—and also the exploitation of a variety of mineral deposits in various parts of India. The war was, to a large degree, responsible for creating conditions favourable to the development of the mineral resources of India. The demand for munition purposes attracted the attention of Government and the

people to the metallurgical and chemical group of 'key' industries and many new industries attained importance. The production of chromite and wolfram was given a sudden impetus owing to munition needs. In both these cases the very large increase in output and export due to war conditions has not been kept up in the post-war period and the prosperity of these industries was only temporary. The revival of the fortunes of saltpetre was equally short-lived. The favourable war years were of more lasting value to the iron and steel industry. In the post-war period the beginning of the production of a series of mineral ores in Burma is of great significance. This is the exploitation of tin ore in Lower Burma, and the working of the lead, zinc and silver deposits of Upper Burma where copper also occurs. In spite of these important additions to Indian mineral products, the metallurgical position is of a nature similar to that obtaining in 1914.[1] Some of the important minerals like coal and petroleum are consumed by what is known as the 'direct process'. Iron ore has been made the basis of an important metallurgical industry, but there still remain a number of others—manganese, mica, lead, zinc, tin and copper—which are all exported in the raw ore form. The production of ferro-manganese in India is extremely limited. Mica is exported in the form of blocks or splittings and no use is made of pulverized mica, nor is the manufacture of micanite attempted, though India produces the finest quality mica and has also a practical monopoly of shellac. Lead, zinc, and silver ores are exported raw to be refined. There was in 1920 an attempt made to start a refinery at Jamshedpur to win zinc and sulphuric acid from the Burma ores, but it did not succeed and, for the production of galvanized steel and hardware, spelter has to be imported from abroad. Similarly the tin ore is exported to the Straits to be refined and the Indian tin-plate industry then imports the tin. Lead, silver and copper are also among the important imports of India.

It is now apparent that India has the raw materials for the establishment of a series of metallurgical industries, and the successful experiment of the Indian tin-plate industry shows that the technical difficulties of production are not insurmountable. The present limit-

[1] *Ante*, p. 117.

ing factor seems to be the extent of home demand.[1] As pointed out above, all these industries must be worked on a very large scale to be economical in production and we must await a further progress in all round industrial development before these industries are added to India's manufactures.

It has been pointed out above that in 1914 the coal industry was growing comparatively more slowly than the internal demand for coal in India and consequently there was a decrease in exports and an increase in imports. It was just at this time also that South African coal, which in the following period was so much to affect the fortunes of the Indian industry, first made its appearance in Eastern markets. The immediate effect of the war on the coal industry was a shortage in demand consequent on every industry being temporarily upset. The recovery in demand was, however, not long in coming, especially from the railways, but the industry was then faced with other difficulties and its progress till 1917 was slow. These difficulties were chiefly of transport. Sea carriage became increasingly impossible and during 1915 more and more coal had to go by rail as the year went on, until at its close practically all that was used in India was so carried.[2] This had also the effect of almost putting a stop to the imports of coal into India and of giving a dominant position to Indian coal in India. Though tonnage was scarce and the coastal traffic in coal had almost vanished, yet the earlier years saw a recovery in Indian exports to the neighbouring ports of Ceylon and the Straits Settlements. As almost all the demand for coal in India had to be satisfied from the Bengal coal-fields and as all this coal had to be carried by rail, by 1916 an acute wagon shortage for carrying coal was beginning to be felt. Demand from the industries was also making a recovery ; in 1917 Government stepped in as a large buyer and all the better coals were requisitioned by them. These coals naturally had to be given priority of transportation and it became necessary for Government to control more and more the movement of coal, and towards the end of 1917 the office of Coal Controller was created. The requisitioning by Government of a very large

[1] The total Indian demand for acids was estimated by the Tariff Board to be about 12,000 tons in terms of sulphuric acid. *Report of the Tariff Board on the Heavy Chemical Industry* (1929).

[2] *Report of the Chief Inspector of Mines* (1915).

portion of the better coal supply left only a limited and inferior supply on hand for the general public and coal prices began to mount up rapidly. From 1917 was thus started one of the most feverish periods of growth in the coal industry. For the next four years the demand for coal was continuously in excess of the supply and the expansion of the industry was only limited by the supply of wagons for carrying coal and the supply of labour for mining it. The Government requisition for coal was removed only in April 1920, though large quantities of good coal became available to the general consumer through the Coal Transportation Officer from 1919 onwards. The year 1919, chiefly owing to the prevailing famine conditions in the districts from which the mining labour was drawn, was a year of record output for the industry. During the years 1920 and 1921, though the conditions of extensive demand and wagon shortage still obtained, the output was less than in 1919 owing to labour difficulties. That this expansion in the coal industry was due to industrial development in India itself was shown by the fact that the period of growth was marked by a fall in Indian coal exports and for some time an embargo had to be laid on them by Government. Though in the period after 1921 foreign coal, especially South African coal, was able to drive away Indian coal from its eastern markets, yet the position of the coal industry was greatly strengthened in the home market itself during the period under review. This will be clear from the following figures of the percentage taken by Indian coal of the total internal consumption of the country :

1909-13	93.9 per cent
1914-18	96.9 ,, ,,
1919-23	97.7 ,, ,, [1]

The Indian Tariff Board in their inquiry in 1926 came to the conclusion that the percentage then was about 97.5 per cent. It will thus be apparent that, though the shipping difficulties of war-times may have been, then, responsible for strengthening the hold of the Indian industry over the home market, the advantage thus gained has not only been retained but slightly extended in later times.

As pointed out above, the period 1917-21 was one of rapid growth

[1] *Quinquennial Review of Mineral Production in India* (1919-23).

for the industry. Even inferior coals, which are always in a somewhat precarious position, were sold rapidly and indeed at times, during the period of Government requisition, fetched higher prices than the better coals. The expansion of the industry during this period was in the form both of the opening of new mines and the extension of old ones. The acute labour difficulties of 1920-21 especially led the bigger mine-owners to an extended use of coal-cutting machinery and electricity in the mines. Yet the Indian coal industry is essentially an industry conducted on a small-scale unit and the boom saw a still larger increase in the number of small mines. The large number of small mines will be apparent from the fact that in 1919 nearly half the total number of collieries had an output of less than 1,000 tons a month.[1] This fact increased still further the difficulties regarding wagon supply and also prevented a larger use of improved machinery and methods in mining.

The exports of Indian coal had fallen very low during the war on account of the shortage of tonnage, but with the record output of the year 1919 they tended to revive. This revival of the exports took place at a time when the demand on the part of the Indian industries, enjoying a short-lived period of prosperity, was yet unsatisfied. The coal raisings were considerable and yet, on account of wagon shortage, the coal actually moved away was much less than the total output. There was a clamour for the prevention of coal exports, and in these circumstances the Government of India felt it necessary to prevent exports of coal except under licence in July 1920. This embargo on coal exports was further stiffened in 1921 and was finally withdrawn only in January 1923. By the end of 1921, however, the boom period was coming to an end and the coal industry was finding the demand for its product gradually diminishing. Many of the industrial ventures launched during the years 1918-21 had failed and Indian industry was passing through a prolonged period of depression. The depression naturally affected the coal industry. From 1921 onwards transport difficulties began to diminish and by the middle of 1924 the supply of wagons was reported to be entirely sufficient for all requirements. The trouble of the coal industry was now the keen competition of South African coal. To a large extent the conditions

[1] *The Coal Fields Committee*, chap. vi (1920).

of the Indian industry during the boom period were themselves responsible for the success of South African coal. The embargo on exports, the shortage of wagons, the bad quality of coal sent out by the Indian collieries during this period of insistent demand, all contributed to this result. The coastwise traffic in coal to Indian ports diminished, Calcutta lost to a large extent its position as a bunkering port and the export markets were almost entirely lost. On the other hand the substantial help given by the South African Government to the coal industry helped the capture of these markets by that coal. The problems facing the coal industry during 1917-21 were those of transport and of improved methods of working. The problem facing it after 1923 was that of recapturing its lost markets. One of the greatest handicaps to Indian coal in competition with South African coal was the heavy charge of transport. As a first measure, therefore, the East Indian and the Bengal Nagpur Railways granted a rebate of 25 per cent on the freight of all exported coal from 1924. The Indian Coal Committee (1925), which went exhaustively into the matter, found that the question of regaining the export markets was one of quality and price. They recommended, chiefly, the extension of transport facilities and the further increase of the rebate granted to 37½ per cent. They were convinced that the export markets of India could be regained by the export of first-class coals only, and they, therefore, recommended the setting up of a Grading Board which would issue certificates of quality, etc., to overseas buyers. The extra rebates were given from 1925 and in the same year the Coal Grading Board Act was passed. The grading of shipment-coal and the issue of certificates of quality by the Grading Board restored confidence among foreign buyers, and there has been a steady revival of the export trade since 1925; almost all the old markets have to some extent been recaptured and a new market has been recently found in Hongkong.[1]

The question of export markets for Indian coal has been much before the public in recent years. Yet it should be remembered

[1] Exports of Indian Coal :—

		(Thousand tons)
Pre-war average	...	825
Post-war average	...	434
1926-7	...	645
1929-30	...	688
1931-2	...	517

that these absorb only a small portion of the total output of the Indian industry. The total injury inflicted on the industry by South African competition is estimated by Mr Ginwala at 1,125,000 tons, which is less than 6 per cent of the total Indian production during recent years. It will thus be seen that the development of the Indian coal industry depends on the increase of coal consumption in India itself and this has been remarkable in recent years. In this connexion the figures given by the Indian Tariff Board[1] of the net consumption of coal in India (excluding wastage and colliery consumptions) are very instructive.

In thousand tons—

1910	1913	1921	1923	1925
9,886	14,281	17,914	17,692	18,431

As in the preceding period, the railways were the biggest customers of the industry and railway expansion had something to do with the increased consumption. But the main factor in this increase was no doubt the establishment of the iron and steel industry in India. In 1922-23 the iron industry (including engineering workshops, etc.) was the largest consumer after the railways, consuming 12 per cent of the total production of coal in India during the year,[2] and the majority report of the Tariff Board expressed the opinion that the 'coal industry has benefited to a far greater extent from the protection granted to steel than it can possibly do from any protective duty on coal'.

Though the total internal consumption has much increased during the last fifteen years, the coal industry has been since the war in a generally depressed state. On the one hand, the general industrial depression in the country and the use of substitutes for coal has cut down the demand; and on the other hand, the large increase in the number of mines during the boom period as well as the increased output due to electrical working and coal-cutting machinery have

[1] *Report of the Indian Tariff Board regarding the Grant of Protection to the Coal Industry*, App. ii.

[2] *Quinquennial Review of Mineral Production in India* (1919-23).

increased considerably the supply.[1] The result of these forces was that only the better quality mines and those equipped with improved plant and machinery were able to keep up, and a large number of the less efficient were gradually eliminated. It may be noted, however, that the recent depression has both in prices and trade conditions affected the coal industry less than most other economic activities.

The progress made by the coal industry during the period under review can be said to be distinctly satisfactory; and it seems to be the general opinion that the industry is capable of a large degree of expansion in the future. The position of the industry in the home markets—except perhaps in Bombay and Sind—is impregnable, and the internal demand is bound to grow. The difficulties of the industry are, on the other hand, obvious enough. A very large proportion of Indian coal raisings are from the Raniganj and Jharia coal-fields; and their situation places them at a disadvantage with respect to all the distant home markets, especially in the west and south. The heavy costs of transport are a continuous handicap and, further, the costs of raising coal have also of recent years risen considerably on account partly of an increase in the wages level but chiefly because of the increase in the depth of mines. The concentration of Indian coal deposits has the effect of making coal very dear to all the distant Indian consumers, and substitutes are being tried in various places to cut down costs. The old substitute for coal was wood and this is still extensively used on such railways as the South Indian, Burma, Rohilkhand and Kumaon. The very high prices of coal during the post-war boom period led to further substitutes being tried, and in 1918 oil-fuel was introduced on the railways systems near

[1] The large increase in the number of mines in the post-war boom as well as their diminution later on and the increased output of coal are shown in the following table taken from the Labour Commission's Report.

Years	Production (tons)	No. of mines	Average daily number employed
1911-15 (annual average)	14,731,904	554	128,884
1916-20 (,, ,,)	18,486,988	700	167,881
1922	18,168,988	953	184,355
1926	20,093,024	722	170,628
1929	22,308,174	548	165,658

The production in 1931 was 20,515 thousand tons.

Karachi and Bombay. Later on, hydro-electricity was introduced in the Bombay cotton mills and the electrification of a considerable railway mileage, especially in the neighbourhood of Bombay, has been effected.

The history of the foundation of the iron and steel industry in India is a veritable romance. It is practically the result of the keenness and foresight of one industrial magnate, the late Mr J. N. Tata. There were, of course, earlier pioneers. One of the first attempts to produce iron and steel according to modern methods was Mr Heath's at Porto Novo in the Madras Presidency, begun in 1830 and continued fitfully up to the sixties. There were also lesser attempts that failed. The first enterprise that became at all successful was the one started at Barakar in 1875 for the production of pig iron and taken over by the Bengal Iron Company in 1889. For a long time this company failed to make steel at a profit, chiefly on account of the poor quality of ore used, but after about twenty years' labour the concern was put on a paying basis by the discovery of a better grade ore. Mr Watson, in 1907, estimated the output of this concern at about 50,000 tons of pig iron per annum[1]. The works were extended and remodelled during the next ten years and the Industrial Commission estimated their output under normal conditions at about 10,000 tons of pig iron per month.

Mr Tata had been first attracted to the project of producing iron and steel in India by reading the report of a German expert on some iron deposits in the Chanda district of the Central Provinces. He was at that time prevented from pursuing the project further by the discouraging attitude of officials and the vexatious rules governing the grant of prospecting licences. When some years later Mr Tata again thought of the exploitation of iron ore in India, he was able to interest Lord George Hamilton, the then Secretary of State for India, in the project and thus official antipathy was to a considerable extent removed. Mr Tata brought out a consulting metallurgical engineer from the United States and began an investigation of the then known deposits in the Central Provinces. The original site fixed upon—Lohara, in Chanda district—had to be given up on account of insufficient ore and the coal difficulty. Next, a more easterly district of the Central Provinces—Drug—was investigated. The ore here was plentiful but coal was far away. A midway site between the Bihar

[1] Watson, Monograph, *Iron and Steel*: *Bengal*.

coal and the Drug ore was then contemplated. At this stage, on a communication from Mr P. N. Bose, a retired officer of the Indian Geological Survey, the survey party moved on into Mayurbhunj State and at last found the enormous deposits of iron ore, part of which the Tata Co. now exploits.[1] The Tata Iron and Steel Co. was floated in 1907, the capital subscribed being all Indian, the actual construction of the plant was begun in 1908, the first iron made in December 1911 and the first steel made in 1913. The works, as originally constructed, had a potential output of 160,000 tons of pig iron and 100,000 tons of steel per annum. Soon after the company began to market its production, the war broke out and very favourable conditions for the growth of the industry were created. Importation of steel was very difficult and the Indian companies tried to increase their output as much as possible. The Tata Co. also produced ferro-manganese for export for some months in 1916, but later on agreed not to manufacture this alloy in view of the more urgent demand for steel. By 1916-17 the old plant was in full production. This production, according to figures given by the Tariff Board, was 147,497 tons of pig iron, 139,433 tons of steel ingots and 98,726 tons of finished steel, chiefly heavy rails and structurals, and bars and light structurals. The heavy demand during war-time encouraged the company to plan large new extensions to their original plant. In the year 1916-17 a very large scheme of extensions was formulated. The first instalment of these was the addition of a third blast furnace in 1919 which increased by about 80 per cent the pig iron producing capacity of the works. Three open hearth steel furnaces were also added to the older portion of the works between 1916-17 and 1921-2, increasing steel production by about 27 per cent. The figures of production in 1921-2 as given by the Tariff Board were 270,270 tons of pig iron, 182,107 tons of steel ingots and 125,871 tons of finished steel. The greater extensions planned contemplated the addition of two new blast furnaces, the first of which began working in 1919 and the second in December 1922. Additional production of steel was provided for by erecting two duplex furnaces ; new rolling mills were to be added and by the addition of a plate mill, sheet mills and a continuous sheet bar and billet mill, the production of plates, sheets,

[1] This stage was reached in 1906. Mr J. N. Tata had died in the meanwhile (1904).

and sheet bar was made possible. According to the original expectation, these extensions would have been completed by 1921, but initially the difficulties of the war period and afterwards the impossibilities of getting early deliveries on account of the post-war boom delayed the project, and it was completed and began to work only in the year 1924.

Meanwhile the circumstances under which the industry worked had changed completely. During the war the importation of iron and steel was very difficult and prices, therefore, soared up high. On the cessation of hostilities there was a sharp drop in prices in early 1919, but, with the boom having definitely set in, they again picked up and record levels were reached in 1920. In 1921 the slump was as remarkable as the rise of the previous year and in the years following 1921 the drop in prices was further continued. While the price of steel was lowered, the cost of production increased considerably in the years 1921-3 on account of the higher prices of coal and a substantial increase in wages.[1]

The Tata Iron and Steel Co., therefore, found itself after 1921 in an extremely difficult position. The condition of the industry had attracted the attention of the Indian Fiscal Commission which made in its report a special reference to it. And when on the recommendations of that Commission, a Tariff Board was appointed, the application of the Tata Iron and Steel Co. was the first to be referred to it for consideration. The Tariff Board found that though eventually the industry in India would be able to exist without protection there must be an extremely difficult period of transition through which the industry could not be expected to pass safely without the help of protection. The original plant of the Tata Iron and Steel Co. was not economical in working and the Tariff Board thought that it was only after the extension planned in 1916-17 had been completed that the working costs would be reduced to an economical level. Further, the company had to employ large numbers of imported skilled workers and the replacement of these by Indians in course of time was also expected to reduce the wages bill. Further, the contracts for rails made with the various railways in and before 1919

[1] The Tariff Board also found that in war-time attention had chiefly been paid to producing as large quantities of steel as possible; while in facing the competition of imported steel in the post-war period the company had to pay greater attention to quality and costs had risen slightly on this account also.

had been made at comparatively low prices and involved the company in a considerable loss. The Tariff Board, therefore, came to the conclusion that, while it was not possible for the Tata Co. to manufacture steel at remunerative prices in 1923, there was considerable scope for and a future possibility of a reduction in working costs, which would make the industry independent of protection. The extent of protection recommended by the Board was arrived at by estimating the difference between the price at which steel was likely to be imported into India and the price at which the Indian manufacturer could sell it at a reasonable profit. This measure of protection was to last for three years, chiefly because of the uncertainty of future prices. The protection was to be given by imposing additional specific duties over and above the ordinary revenue duties on those kinds of imported steel which were manufactured by the Tata Co., and on wrought iron, as the commoner qualities of this could be used for many purposes for which steel could be used. Special bounties also were to be given on the manufacture of rails and fish-plates on a graduated scale for the three years. Arising out of these recommendations the Board also recommended an increase in the duties on fabricated steel for removing the handicap that would be imposed on the Indian engineering industry as a result of the adoption of protection for steel. These recommendations were accepted by Government and the Steel Industry (Protection) Act was passed in 1924.

Almost immediately, however, the Tariff Board had again to report on the same question as their calculations of the price at which steel could be imported into India were upset by the continued depression in the world steel industry and the collapse of Continental exchanges. The price of steel went down very low and there were large importations. The Tata Co., therefore, asked for an increase in protective duties so as to maintain the old level of protection under new price conditions. The Tariff Board reporting in October 1924, suggested a set of offsetting duties, instead of which, however, Government substituted a measure of special bounties for one year subject to a maximum of Rs 50 lakhs. In 1925 there was a further investigation and additional assistance by way of bounties was agreed to by Government for the next two years up to a maximum of Rs 60 lakhs. In 1927, the original period of three years expired and a second inquiry

as to the continuance of protection to the steel industry was conducted by the Tariff Board.

The Bengal Iron Co., the first company to be commercially successful in the production of iron in India, made good progress during the period under review. It steadily increased its production during the war and manufactured successfully during the later war years considerable amounts of ferro-manganese for export. The works contain a large foundry and the company has specialized largely in the production of foundry iron. The pig iron industry did not suffer much in the post-war depression. It was one in which India has now been proved to have distinct advantages and the Tariff Board wrote in 1924 that India 'already produces pig iron more cheaply than any other country in the world'. Up to 1924 the production of pig iron was especially profitable. The industry, however, could not but be affected by the depression in the steel industry and by 1925 demand was slack and prices fell very low, and the Bengal Iron Co. had to close down part of their works at Kulti for some time. The prices, indeed, at this time touched so low a level that the Tariff Board calculated that it would be more profitable for Tatas under the scheme of protection to turn as much pig iron as they could into steel rather than sell it raw. This depression in the pig iron industry soon passed away and for some years afterwards Indian production increased rapidly. The productive capacity of the Bengal Iron Works is 200,000 tons of pig iron per annum and most of it is used in the company's foundry and other Indian foundries.

Another important iron works, the Indian Iron and Steel Co., was floated in the year immediately after the war. The works of the company are situated at Hirapur near Asansol and the first blast furnace began producing in November 1922. The original intention was to produce steel also, but having regard to the post-war condition of the steel industry, the company decided for the time being to produce pig iron only. The capacity of these works is nearly 350,000 tons of pig iron per annum, all of which is produced for sale, the bulk being exported out of India. The pig iron industry of India is now established on a secure basis. The production of pig iron has increased rapidly in the post-war period. Imports have declined and are now almost negligible. Not only does India produce all the pig iron that her steel industry and her foundries require,

but she has a considerable surplus available for export. In recent years a brisk export trade has been built up, Japan being the chief customer. The trade has, however, been in a very depressed state since 1930-31.

The Tata Iron and Steel Co. remains to this day the only important producer of steel in India. Because of the protection granted to it the company has actually been able to improve its position since 1923 in spite of difficult conditions. It has, of course, been unable during this period to pay any substantial dividends but that was because the protection was always intended to be given as the minimum necessary to tide the industry over the transitional period. A fifth blast furnace was added in January 1924 and the productive capacity is now nearly 900,000 tons of pig iron per annum. Greater extensions came into operation in 1924. The new duplex furnaces greatly added to the productive capacity for steel. The output of rolled steel was 163,000 tons in 1923-4, 248,000 tons in 1924-5, 320,000 tons in 1925-6 and 420,000 tons in 1927-8. The Tariff Board in 1927 found that during the period of protection improved methods had been introduced, and as a result of this, together with the new extensions and the lower price of coal, there had been a reduction of costs. The effect of the improvements had not been then fully realized. The older plant had become obsolete and the works as they stood were not properly interrelated. To remove these defects a further scheme of extension was proposed by the company which was approved of by the Board. This would take the output of finished steel in a few years to about 600,000 tons per annum and would also effect a considerable decrease in works costs. The Board found that, though there had been some progress in replacing foreign skilled labour by Indian, the number of semi-skilled and unskilled labourers was yet too large. They concluded that, though the position of the industry had improved, it still stood in need of protection, though on a smaller scale than before. The protection was recommended for a term of seven years and Tatas calculated that by 1933-4 the industry would be able to do entirely without protection. The extent of protection was calculated in the same way as in 1924. Bounties were to be abolished and a scale of lower duties was proposed. Though the measure of protection was recommended after taking Jamshedpur conditions into account, it was believed to be enough for any new manufacturer of steel in India. The Board further emphasised the point that no scheme of protection

in India would be successful without the co-operation of railways—the greatest purchasers of steel in India. The Board's scheme was in the main accepted by the Government and the Steel Protection Act was passed in 1927, though there was considerable opposition in the Legislative Assembly to the Board's recommendation differentiating in duties on British and non-British steel.[1] 1927-8 was the first year of the new scheme of protection and the Tata Iron and Steel Co. spent during that year Rs 50,00,000 on new extensions. The estimated total cost of these is three crores of rupees; the time taken for their completion will be from five to six years. 'The principal items will consist mainly of enlargements to the present coke, pig iron and steel producing capacity of the plant, and of the consequent necessary increases in handling facilities and various improvements in the rolling mills and many other departments of the plant.'[2] The production of the company during 1927-8 was (in thousand tons):—coke 740; coal tar 25; sulphate of ammonia 9; sulphuric acid 15; pig iron 644; steel ingots 600; and finished steel products 408.

The iron and steel industry may now be taken as a well-established industry in India and, according to all reasonable calculations, it will be able to do even without protection in a few years' time. In Singbhum and other parts of Bihar and Orissa, India possesses reserves of iron ore which will compare in quality and quantity with almost any other country in the world, and in the price at which pig iron can be produced the Indian steel industry has a distinct advantage over other countries. Limestone and refractory materials are also near at hand and cheap. In respect of coking coal the position is not equally happy. The quality of Indian coal is inferior to the coal available in other steel producing countries and the quantity of coking coal available is also limited, and the Tariff Board suggest that it is desirable to take steps to conserve Indian resources of metallurgical coking coal. This, however, does not, at present, act as a handicap to the industry as, though the coal is inferior, it is comparatively cheap. Further, all the three iron smelting establishments have their own ore mines, limestone and dolomite quarries and collieries, and

[1] The specially low level to which the price of galvanized sheets sank in 1929-30 induced the Tata Co. to apply for special protection for this product. After inquiry by the Tariff Board an additional duty was imposed by Government in 1931 on imports of galvanized sheets.

[2] Company's *Annual Report*, 1927-8.

there is nowhere a raw material haulage of more than 200 to 250 miles necessary—generally it is much less. Though the initial labour costs on account of the need for importing skilled labour were high, the progress made in training Indians has been satisfactory. All the circumstances, taken together, point to the ultimate establishment of a self-reliant steel industry in India, and the Tariff Board in 1927 predicted a splendid future for the industry, provided a progressive policy was followed by those controlling it.

Up to 1924 the Tata Iron and Steel Co. produced only light heavy rails and structurals, fish-plates and bars ; now it produces, in addition, plates, tin bars, black sheets, galvanized sheets and steel sleepers. Owing to the fact that the steel producing capacity of the plant was smaller than the pig iron capacity, there was, during the years after 1920, a considerable surplus of pig iron for sale. The quantity of this has steadily diminished and most of the pig iron produced is now absorbed in the works themselves. The company also has made available for sale fairly large quantities of coal tar and sulphate of ammonia—the by-products of the coking of coal. The recent difficulties of the industry have been numerous. Steel prices have touched phenomenally low levels and with the depression affecting Indian railways one important source of demand has been badly affected. The Tariff Board had pointed out that the success of their scheme depended largely on the co-operation of Indian railways. Railway orders have not been forthcoming in recent years in the expected volume, with the result that Tatas have been forced to seek markets abroad for their semi-finished steel. They have partially secured such a market recently by the agreement entered into with the British steel industry following the Ottawa Conference. The diminution in railway orders has been partially compensated for by an extra payment by the railways of Rs 20 per ton over the contracted price of rails supplied by Tatas. This compensation was fixed by a reference to the Tariff Board.

The company produces only raw steel, but it is obvious that Jamshedpur would well serve as the centre for a series of allied industries, especially those which use steel as an important raw material. In the post-war boom year, when rosy expectations were formed of every industrial possibility, it was hoped to establish as many as seventeen subsidiary industries in the vicinity of Jamshedpur. Most of these

never went beyond the initial stages. One of the most important to be dropped early was the Burma Corporation project for the smelting of zinc ore on which depended the chief possibility of manufacturing sulphuric acid in India. There were others, however, which were definitely established. These included companies for the manufacture of railway wagons and locomotives, agricultural implements, wire products, tin-plates, enamelled ironwares and cables. With many of these, such as the Steel Wire Products Ltd., the Enamelled Ironwares Ltd., and the Indian Tin-Plate Co., the Tata Co. made special arrangements for the supply of steel. Most of these industries suffered during the period of depression and their varying claims to protection were also considered by the Tariff Board.

The manufacture of railway wagons in India was not undertaken before the war. It may be said that Government brought the industry into being by guaranteeing to purchase in 1918 a definite number of wagons per year, provided that the price was not higher than the price at which the wagons could be imported. The Indian Standard Wagon Co. was formed immediately after this announcement. However, till 1924, little progress was made on account of foreign competition. In 1924 the Tariff Board recommended a scheme of bounties for protecting the industry. Government gave bounties for the years 1924 to 1927 but withdrew at the same time its old guarantee to purchase, as the industry was now protected. As a result of the scheme of protection, it was by 1927 possible to construct wagons in India at a competitive price, provided sufficient orders were forthcoming, and to meet a very large proportion of the normal demand of railways in India locally. But the continuous stream of orders necessary to maintain the industry was not always forthcoming. Complaints were made that during the years 1924 to 1927 some orders were unnecessarily placed abroad by Indian railways. What was much more serious, however, was that the Railway Board discovered in 1927 that it had a large surplus of wagons and would have to curtail its orders drastically. The Tariff Board, when reviewing the question in 1927, found that no protection was needed by the industry, but that it was necessary that all orders should be placed in India. In spite of the acceptance of these recommendations, orders, it is complained, are too few, and the extension of the activities of Government railway workshops (such as the Pen Loco at Jamshedpur)

is further curtailing the extent of these orders. The industry is, therefore, at present in a distinctly depressed condition. The manufacture of locomotives in India was tried by only one company. This did not prove very successful and the workshops of this company were subsequently acquired by Government. In 1924 the Tariff Board recommended protection to the wire and wire-nail industry on the understanding that the industry would be subsidiary to the steel industry. The Tata Iron Co. were, however, unable to supply the kind of wire-rod required and the industry had to work with imported raw materials. This proved unprofitable, and in spite of the protection and the large measure of financial assistance given by the Bihar and Orissa Government, the company failed to work economically and had finally to close down in 1927. The Tariff Board in 1927 recommended, in consequence, the discontinuance of the special duty. There was, however, a revival of the company and a fresh application for protection was made in 1931. This was referred to the Tariff Board and in its recommendation Government again levied protection duties on wires and wire-nails in March, 1932.

In contrast to this was the history of the tin-plate industry in India. The Indian Tin-Plate Co. was started as a result of co-operation between the Tata Iron and Steel Co. and the Burma Oil Co. The works were started in December, 1922. The industry was for long almost a preserve of South Wales, and it was feared that climatic conditions and inadequacy of skilled labour would militate against the establishment of the industry in India. On the other hand, a large home demand was a natural advantage that the industry enjoyed. The industry was recommended for protection in 1924 and as a result rapid progress was made during the next three years, output increased and works costs were reduced. Indeed, in 1927, the Tariff Board thought that the industry provided 'a notable illustration of the industrial progress attainable within a comparatively short period under a policy of discriminating protection'. The progress of the industry further showed that Indian labour was easily trained as it was found possible to reduce the number of imported hands to half within six years. The Tariff Board in 1927 recommended continued protection for seven years on a reduced scale, rejecting the Welsh manufacturers' contention that the industry would never be able to stand on its own legs.

The engineering industry in India is an old-established industry although it had to import most of its raw materials from abroad. It covers a wide variety of products, from the manufacture of nuts and bolts to railway bridges, and is an industry carried on in all parts of India. In 1924 the Tariff Board had to recommend a 25 per cent *ad valorem* duty on all fabricated steel entering into India, as a set-off to the handicap imposed on the industry by the enhanced duties on raw steel. By 1927 the industry was found to have done well and the duty was reduced to 17 per cent. Though all the expectations formed in 1920 were not fulfilled, the post-war years witnessed the establishment not only of the steel industry of India but also the establishment and growth of a variety of other industries using the steel manufactured by Tatas as raw material.

The petroleum industry in the world has grown tremendously both in size and in importance during and since the war. The total world production has almost been trebled during this period and many new uses found for petroleum products. The Indian industry has, however, shown no signs of expansion.[1] Burma is still the most important producer of mineral oil. The Burma fields increased their production during the war, but since 1921 there has been a steady falling off in production from this source. The Tariff Board opine as to Burma possibilities that 'with the exception of the Singu and Indaw fields, production in Burma fields has already reached its maximum and must decline in the future'.[2] There are, however, distinct possibilities of expansion in the newer Assam and Attock fields. Extensive developments have taken place in the Assam fields since 1921 and large hopes are now entertained as to the future of the Attock fields. Since 1924 production in Burma has been distinctly low while a rapid advance has been made in both Attock and Assam. Of the total production of 306 million gallons of petroleum in 1924 Burma produced 253.4, Assam 33.5 and the Punjab 19.2. The position of the petroleum industry with respect to its market is very secure. The demand for kerosene in India is a steadily increasing one and imports, which declined considerably during the war years

[1] In 1913 India supplied nearly 2 per cent of the world's marketed production, in 1923 only about 0.83 per cent, and the proportion has since steadily declined.

[2] *Report on the Grant of Protection to the Oil Industry*, p. 2.

and reached a very low point in 1918-19, have since increased and greatly exceeded the pre-war level. It is estimated that at present the home supply of kerosene 'stands at between 35 to 40 per cent less than the total home demand'.[1] The home demand for other petroleum products has also increased rapidly in recent years, notably in fuel oil and petrol. The demand for petrol in 1926 increased from 1920-21 by 261 per cent,[2] but as Burma production also increased rapidly India was until 1929-30 practically independent of outside resources for her requirements of petrol. Imports, though increasing rapidly, are yet small and amounted in 1931-2 to only 13 million gallons. This, of course, is an indication of the rapidity with which the motor transport has extended its scope in the post-war period. The rise in the demand for fuel oil has been even more remarkable. The indigenous production of this is small and the bulk of the oil consumed has to be imported. The pre-war average of imports was only about 8 million gallons. The high prices of coal, then, induced railways, steamships and industrial enterprises to go in for a larger use of fuel oil. There was, therefore, some increase in imports during war-time, but the first very large increase was in 1918-19 when the figure of 27.6 million gallons was reached. Since then consumption has rapidly gone up and imports which account for the bulk of the consumption have since 1929 always kept above 100 million gallons per annum. The home demand for all the products of the industry is large and the hold of the industry over that demand is also complete. The Indian industry was engaged during 1927 in a severe price war with a foreign group ; this, however, was a kind of eventuality which the industry, in the opinion of the Tariff Board, was strong enough easily to tide over.

Petroleum Industry (Total Production)

	1916	1919	1926	1929
Gallons, Oil ...	297,189,787	305,651,816	280,369,326	306,148,093

Manganese ore is another of that group of mineral products of India which is almost entirely exported in the ore form. The industry

[1] Ibid., p. 19.
[2] Ibid., p. 86.

suffered a setback during the opening years of the war, but from 1916 onwards, when a strong demand for munition work in all the allied countries made itself felt, the industry rapidly recovered. The demand for the ore was keen and prices soared high, yet the output was prevented from increasing because of the abnormal shortage of tonnage, though this was to some extent relieved by special arrangements for shipment. Immediately after the war the output rose to a record height in 1920 and sank back very low in 1921-2. Since then it has recovered its position and pursued an even course. For the larger part of the post-war period India's chief competitor, Russia, was out of the running ; and difficulties of transport prevented the competition of Brazil from assuming too serious an aspect. Recently, however, Russian production has revived and this together with the great decrease in steel production, has severely depressed the condition of the industry. From the standpoint of Indian industrial development, it is hardly of much immediate importance, though the possession of home manganese ores may no doubt in the future help the development of the higher grades of steel manufacture. During the last year of the war it was found profitable to manufacture and export ferro-manganese. This was done chiefly by the Bengal Iron and Steel Co. and the exports in 1918-19 amounted to nearly 11,000 tons. Since then the difficulty of producing ferro-manganese of the quality required in Europe and America has kept down this business and exports of recent years have fluctuated between 2,000 to 5,000 tons. These exports have, however, ceased entirely since 1930-31.

India still retains its position as the greatest mica producing country. The chief belt of mica production is in Bihar and Orissa. It is mined by very primitive methods in India and blocks of mica exported directly, mostly to the United Kingdom. At the outset of the war the mica industry suffered considerably on account of the large pre-war German interests and control of the electrical industry which was its chief customer. The demand fell off considerably and Government control also depressed the industry. From 1916 onwards, however, on account of its use for munitions purposes Government began to buy large quantities of mica and there was a very general rise in prices and a period of prosperity set in which lasted till the end of the war. This prosperity was shared by all alike, the inferior as well as the better qualities being in general demand. During 1919

and 1920, though the demand for good quality mica was steady, inferior varieties were not much in demand and output was restricted. The next two years, 1921 and 1922, were years of severe depression for the mica industry. Since 1923, however, the demand and the output, as also the quality of mica raised, have steadily improved. Very little mica is consumed in India, most of the raisings being exported. The depression has naturally affected both production and export of mica and it further seems that the competition of a new producer—Rhodesia—will substantially alter the position hitherto held by India in the world market.

The production of saltpetre from scrapings of earth containing nitrates has been practised in India for a very long time. Till about 1860 saltpetre was almost a monopoly of India, but, as stated above, the discovery of Chile nitrates reduced very greatly the importance of the industry. The old demand for saltpetre was chiefly for munitions purposes and this declined during the last few decades of the nineteenth century. A steady demand was, however, maintained from China for use in fireworks and from Ceylon and Mauritius for use as manure, and the collection and manufacture of crude saltpetre was a considerable source of subsidiary income to agriculturists of certain districts of Bihar and Orissa, the United Provinces and the Punjab. There were also a number of saltpetre refineries in these districts. The war brought in an active demand for saltpetre for munitions purposes and for the war period the prosperity of the industry revived. Prices of saltpetre rose and Government took special steps to encourage its manufacture. This prosperity was shortlived and with the end of the war the fortunes of the industry declined. The pre-war average of saltpetre exports was 305 thousand cwts.; this rose to an average of 440 thousand cwts. during war years. The demand for munitions purposes ceased and the demand for fertilizers from abroad declined owing to the competition of Chile nitrate and French potash salts. Post-war exports declined to even below pre-war level and exports since 1925 have been on an average only about 100 thousand cwts. The only considerable home demand for saltpetre is for manuring purposes from the Assam tea gardens.

Gold still holds a fairly high place in value in the mineral production of India. It is really an unimportant industry. The production of gold in India is only about 2 per cent of the total

production of the world and the only important mines are those at Kolar. The position of the Kolar fields has steadily worsened since 1905 and the production has been continuously declining during the period under review owing to the fall in the price of gold.

A new mineral industry is the production of lead in India. This is due to the exploitation of the Bawdin mines in Upper Burma, which are now 'proved as one of the great lead-silver-zinc mines of the world'.[1] The Indian demand is considerable and with further development the whole of this demand may be met by home production. The output has increased very rapidly since 1919, rising during the five years 1919 to 1923 from 19,090 tons to 46,060 tons. The output of zinc and silver from these mines has also risen considerably side by side. In 1930, a year of record production, the total lead-silver ore mined was 529,814 tons yielding 78,030 tons of refined lead ; 1,700 tons of antimonial lead ; 7,054,206 ounces of refined silver ; 17,146 tons of copper matte ; 3,150 tons of nickel speiss and 57,620 tons of zinc concentrates.[2]

The tea industry has had a remarkable spell of prosperity during most of the period under review. It has almost since its inception experienced a steady growth and almost uninterrupted good fortune and was doing unusually well when the war broke out. Immediately after the beginning of the war, prices rose high and a fillip was given of intensive tea production. Both in production and exports records were rapidly broken. The difficulties of tonnage were, however, felt in the later years of the war and the prices could not be kept up at the high level attained during 1916-17. Like many other articles tea exports were also subjected to control during the later war years and the large purchases on behalf of the United Kingdom Ministry of Food relieved the Indian industry considerably during these years. The years 1914-19 were for the plantations distinctly good years. The prices from 1914-17 were well above the pre-war level ; the wages of labourers on the other hand were stationary. The result was an era of high profits, and new gardens and extensions were planned and old gardens rapidly increased their production. The break came in 1919 and for the next two years there was severe depression. The reasons assigned for the financial difficulties of these years were two :

[1] *Quinquennial Report on Mineral Production in India*, 1919-23.
[2] *Report of the Chief Inspector of Mines in India for the year* 1930.

(*i*) the rise in the rate of exchange and (*ii*) the fall in the price of tea. The fall in prices naturally followed on the general depression, the slackening of demand coupled with inflated production and coarse plucking. The year 1920-21 was a most disastrous year for the tea companies. Unlike other industries, however, recovery was remarkably rapid, and from 1921-2 began another period of rising prices and increased production which beat even the records set up during the war period. Prices were again depressed in 1925, but a repetition of the disaster of 1920 was prevented by the decision of producers to limit the outturn. The world-slump did not affect the tea industry in 1930 because of a successful agreement between world-producers to restrict output. The agreement could not, however, be renewed next year, and tea prices have fallen disastrously since 1931. Increased production in Java and Sumatra was chiefly responsible for this fall. The market for Indian tea is predominantly foreign, almost nine-tenths of the total production being exported. The Indian industry has during the last decade lost one of its most important pre-war foreign customers—Russia. This loss has been made up mainly by an expansion of exports to the United Kingdom, Canada and the United States.

The problem of labour has always presented many difficulties, especially in the case of the Assam tea plantations, and the system of recruitment as well as the conditions obtaining on the plantations have always come in for a great deal of criticism. The evil effects of the rise in prices without a compensating rise of wages were felt by the labouring classes throughout India ; the conditions on the tea plantations were, however, exceptionally bad. For the labourer here could hardly be described as free. In most cases it was long-term contract labour and the employers possessed extraordinary legal power over their employees and in many cases exercised many extra-legal restraints also.[1] The committee which inquired into Assam labour conditions in 1922 found that on some gardens the wage had been unchanged for almost a quarter of a century. Even the planters themselves had come to recognize by 1918 that a rise was imperatively necessary and yet it was not granted till after 1920. The high price of cloth and food-grains had made the position of the labourer precarious and even where paddy allowances were given the allowance was usually insufficient and the rice bad. The result of this was a

[1] *Report of the Assam Labour Enquiry Committee*, chap. v (1922).

distinct lowering of the already very low standard of living of plantation labour. The recruitment of labour was through garden 'sirdars', chiefly employed, in the congested districts of the United Provinces and Bihar and Orissa. The inducement for labour to emigrate could only be a higher wage and yet such was the tea garden wage in 1921-2 that many garden coolies who left the plantations, being dissatisfied with the conditions therein, were easily absorbed in their home districts on a higher wage. In some parts the distress caused was indeed so acute that there were a series of strikes and disturbances and from one locality an almost wholesale exodus. Ever since 1859 the relations of coolies and planters were regulated by special legislation which gave what have consistently been proved to be unfair powers of control to the planter over his labour force. The Act of 1901 regulating certain kinds of long-term contracts was abolished in 1915 and the 1859 Act was further amended in 1920. The most important of the amendments introduced in 1920 was the provision which made contracts of more than a year's duration illegal—a provision stoutly opposed by the Tea Association and which, the 1922 Committee found, was in many cases openly violated. The contract, however, continued to be penal till an Act of 1923 repealed it as from 1926.[1] Similar provisions governing the relations of planters and labourers continued in force in the Madras Presidency till 1929. The majority of the 1922 Committee held that the system of recruiting and controlling labour in Assam compared very unfavourably with the system of 'free' labour in the Dooars. This was also the emphatic opinion of the Labour Commission.[2] The Commission recognizing, however, that controlled recruitment could not immediately be done away with, recommended the abolition of the 1901 Act and its substitution by an Act which would be less restrictive and which would contain provisions to eliminate itself in due course. The Commission thought that the chief legal control exercised should be over the forwarding of assisted immigrants. They recommended the abolition of the Assam Labour Board and the creation of the office of a Protector of Immigrants. A very important suggestion made by the

[1] The Labour Commission found that the knowledge of this repeal was not widespread among the labourers even at the time of their visit to Assam, *Report of the Royal Commission on Labour in India* (1931), pp. 377-8.

[2] Ibid., chaps. xix and xx.

Commission was that all assisted immigrants should after three years' service be given the right of being repatriated at the employers' expense.

Rubber was an entirely new plantation industry established in India. Before 1910 the industry was only in an infant stage and exports were very small. The average area in 1913 under rubber was about 46 thousand acres. During and after the war there was a rapid expansion of the market for rubber and the use of rubber, and production all over the world increased by leaps and bounds. The acreage in India reached the figure of 118.5 thousand acres in 1919 and was 151.8 thousand acres in 1927. India, of course, is only a minor producer of rubber, producing about 3 per cent of the world's total production, and the conditions of the crude rubber market are controlled entirely by other producers. Of the total area under cultivation in 1927, 51 per cent was in Burma, 31 per cent in Travancore, 9 per cent in Madras and 6 per cent in Cochin. The industry employed daily an average number of 52,899 persons.

The Industrial Commission have mentioned the non-manufacture of heavy chemicals in India as one of our most serious industrial deficiencies. The conditions of war-time with the keen demand for various chemicals for munitions purposes had emphasized the national importance of this industry ; and it was expected that, on account of opportunities and special encouragement given during the war, chemical industries would be securely established in India. These hopes were, however, not fulfilled. The present Indian demand for chemicals is small, because of the absence of industries using heavy chemicals in large quantities, such as glass and soap, or dyes and drugs. For example, sulphuric acid is the most essential material in use in the chemical industry and it has been remarked that 'if the demand for sulphuric acid is taken as the chemical barometer of Indian conditions, industrial activity in India is in its infancy'.[1] The main supply of sulphuric acid was expected to come from the refining of zinc concentrates at Jamshedpur. That scheme, however, never took material form. At present sulphuric acid is manufactured in India from imported sulphur, but the cost of this is naturally high and it is essentially cheap acids and alkalis that are required. Soda compounds occupy the chief place in the imports of chemicals into India and

[1] Fox, 'Sulphuric Acid', *Indian Industries and Labour Bulletin*, No. 28.

the lack of cheap local supply is a considerable handicap. It was expected some years ago that large supplies of cheap alkalis could be got from the extensive *reh* soils in the United Provinces and other parts of India.[1] But these expectations have not been realized.

Since the war the demand for chemicals in India has increased considerably and there has been a considerable growth of that side of this industry which is based on sulphuric acid. The units of production, however, have in each case been small and works have been constructed near the seats of big industries to serve the local demand. The Tariff Board which reported on the application for grant of protection by the industry found that while on account of heavy freights the manufacture of acids had been generally carried on profitably in India the absence of this natural protection prevented the manufacture of salts derived from sulphuric acid except on a small scale. The Tariff Board did not think the absence of indigenous supplies of sulphur a great handicap and were of opinion that the industry merited protection because of its supreme national importance. The Tariff Board in making its concrete proposals was in this case confronted with a peculiar difficulty. It could not base these proposals on the actual working costs of any particular factory, as all the factories were working at the time of the investigation on too small a scale. Bombay was the biggest market for these chemicals in India and the Tariff Board based its proposals on the minimum size of a single concern catering for the whole of the Bombay demand. The Board was further of opinion that a reorganization of manufacture on the basis of a single unit catering for the whole Indian demand would be most proper. There were, however, no measures suggested of actively bringing either this or even a partial amalgamation about. Government also, even though it admitted in its resolution (September 1931) that the imposition of duties would tend rather to perpetuate the present organization than modify it, found the duties proposed by the Tariff Board as generally suitable, and imposed them in the large majority of the classes on these manufactures.

In the world as a whole sugar production continued to increase after 1924-5, with the effect that prices were continually depressed. In spite of a high revenue duty in India prices in India were

[1] Watson and Mukherjee, 'Commercial Utilization of *Reh* Deposits', *Journal of Indian Industries and Labour* (May 1922).

unremunerative for the local 'khandsari' and the modern factory sugar manufacturers. This had an effect on sugarcane cultivation in the larger sugarcane provinces of India—U.P., Bihar and Orissa and the Punjab—and these provincial Governments represented through the newly established Agricultural Research Council the need of giving protection to the sugar industry. In an examination of this question the Tariff Board was confronted with a novel set of circumstances. The grant of protection to the sugar industry involved the consideration of a wide variety of producers. There was the cultivator in whose economy, especially in certain parts of India, sugarcane played a very important part. Then there was the producer of *gur* who, however, the Tariff Board found, was not directly affected by the price of sugar and the different producers of sugar, the country 'khandsari' producing a brown type of sugar, the producers of white sugar by the indigenous 'Bel' process, and the refineries of *gur* and modern factories producing white sugar directly from cane. This was the first time that the question of protecting agricultural interests had come before the Tariff Board, and the Board decided that in view of the importance of sugarcane in the agricultural economy of India the interests of sugarcane cultivators ought to be protected by the state. The Board concluded that 'it is essential in the national interests that the area under sugarcane should diminish and that a fresh outlet should be provided for cane by encouraging the expansion of the white sugar industry. Unless steps are taken to develop the white sugar industry a disastrous slump in the *gur* market is probable which will seriously affect the agricultural classes, disorganize the agricultural system and involve the abandonment of better cane cultivation in large areas'.

Though the Tariff Board found that imports of white sugar had not yet affected sugar prices they feared that recent imports of Java *gur* and the manufacture of imitation *gur* from imported sugar might threaten the position of the sugar industry. They therefore recommended a duty on sugar imports. In the case of white sugar they recommended a scale of duty which would cover the needs of both the modern factories and the manufacturers of sugar by indigenous methods. This scheme of protection was recommended for a term of 15 years and the Board thought that at the end of that period even though Indian prices might not compare favourably with those

of Cuba or Java they would at least be on a par with those of other sugar producers of the world. The proposals were substantially accepted by Government in September 1931. The effects of this together with the successful restriction of the output of sugar by world producers were seen in the increased output of *gur* and of factory and indigenous sugar in India and in the launching of many new sugar factory projects during the next year.

Leather and tannery works were also given a stimulus during the war because of the enormous demand for army boots. At present the industry is much in the same position as it was in 1914. There are a number of tanneries in South India and in the Bombay Presidency producing bark-tanned leather chiefly from cowhides, largely for export. In this industry little machinery is used. There are also a few leather works of the modern type. These were chiefly the Cawnpore factories before the war. Leather works were started around Calcutta and many other places at the end of the war, but most of these have been only moderately successful and no important progress has been made in the industry during the period under review.

Two new industries started during the same period were cement and match manufacture. On the eve of the war there was only one cement works in India, but three cement companies had been floated which commenced production after the war broke out. These were the Porbander, Katni and Bundi factories. Their establishment was very opportune, so Government found, and during the later war years they worked under official control which lasted till the middle of 1919. The war years gave a good start to the industry and the building activity of the boom period further helped it. Portland cement has attained unusual importance in modern times and, in common with other countries of the world, Indian consumption has been making rapid strides. India has plentiful supplies of excellent limestone well distributed all over the country and the prosperity of the war and post-war years led to a phenomenal increase in the industry. Between the years 1922-5 seven new companies started production in various parts of the country and there followed naturally a period of over-production and severe price-war. The years 1923-5 were especially bad and the industry applied to Government for protection. The Tariff Board found that in the internal markets the internecine competition

was responsible for the troubles of the industry, and that the industry was at a special disadvantage in the ports of Calcutta and Bombay, the chief consumers of Portland cement in India. The imported cement here was distinctly cheaper than Indian cement and the protection recommended by the Board took the form of bounties on Indian cement sold in the two ports. This was not accepted by Government. The industry, however, soon recovered from this depression and Indian production has steadily been on the increase in recent years.

The match industry of India affords the curious example of a revenue duty bringing about the rise of a protected industry. It is the outcome of the very high specific duty of Re 1-8-0 per gross levied on imported matches by Government for revenue purposes in 1922. Previous to this year there was almost no successful manufacture of matches in India but as a result of the high duty a large and successful industry has come into existence within the course of a few years. As in match manufacture almost all the processes can be done either by hand or by machinery, there is a great variety in the nature of the producers in the industry, ranging from completely machine-equipped factories producing on a very large scale, to mere cottage manufacture without the use of any machinery. India has a large home market, but suitable qualities of Indian wood are not yet forthcoming in considerable quantities. A large proportion of the manufacturers, therefore, use imported wood either wholly or partially. The growth of an internal industry naturally led to a steady diminution of imports and of the revenue duty. Government asked the Tariff Board in 1926 to review the situation thus created and the Board recommended the conversion of the revenue duty into a protective duty of the same amount, expressing at the same time the opinion that the industry would ultimately to able to do without protection. The following figures will illustrate the progress of the industry. The pre-war average imports were 14.6 million gross, and the post-war average imports were 12.7 million gross. By 1927 these imports had declined to 4.3 million gross and in 1931-2 they stood at 0.1 million gross. The grant of protection to this industry raised acutely the problem of how to avoid giving the foreign capitalist the benefit of a protectionist regime. For today the largest producers of matches in India belong to the Scandinavian syndicate.

It is evident that there has been a considerable growth during this period in the larger industries of India. Yet the main features of the situation are not substantially changed. Organized industries as yet play too small a part in the national economy, and even in the industrial population a very large proportion is engaged in the simpler seasonal, miscellaneous or repair industries. Cotton gins and presses, jute presses, rice mills and timber mills, engineering workshops, foundries, all these employ the major portion of the Indian population engaged in modern industry. The features found in the industrial census statistics of 1911 were equally present in the industrial census statistics of 1921, as the following figures will show. The definition in 1921 was widened to include all establishments employing more than ten hired labourers, and therefore the figures are not directly comparable with those of 1911.[1] The total number of establishments enumerated was 15,606 employing 2,681,125 persons—1,994,314 males and 686,811 women. Power of one kind or another was used in 8,015 establishments : 5,293 used steam, 1,335 oil, 1,137 electricity, 165 gas and 85 water. The most important classes of industries were :—

Industry	Persons employed	Industry	Persons employed
Tea plantations ...	747,661	Flour and rice mills ...	49,991
Cotton spinning & weaving	350,679	Printing presses ...	49,378
Jute mills	287,336	Coffee plantations ...	40,304
Collieries	181,594	Iron and steel works ...	39,449
Railway works ...	112,532	Petroleum refineries ...	33,534
Cotton gins and presses ...	83,055	Stone and marble quarries ...	25,470
Metal and engineering workshops ...	82,182	Sugar factories ...	22,369
Brick and tile factories ...	75,020	Gold mines ...	22,186

The 1921 definition of industry was wider and, therefore, for purposes of closer comparison, tables on the 1911 model were also prepared. In these there are to be found some interesting figures. The growing importance of electricity is shown by the fact that in 1911 in the group of gas and electricity works there were 14 factories employing 4,680 persons, and in 1921 the number was 81 establish-

[1] The results of the 1931 industrial census are not yet available.

ments employing 11,528 persons. The large increase in brick works, lime kilns, etc., reflects a much greater building activity in 1921. In numbers of other cases, on the contrary, there is very little or no rise at all. It should, however, be remembered that 1921 was a year of severe depression in many industries.

The figures presented by the Industrial Census statistics do not represent accurately the extent of the population engaged in modern industry. For in such cases as tea and coffee plantations, the larger part of the employees are engaged in what is really an agricultural occupation. The statistics of larger industrial establishments in India occasionally published by Government offer a more correct estimate. The latest figures available are for 1929. The total number of factories enumerated is 9,587 and the total factory population 1,755,937. The following industries employ an average of more than 10,000 persons :—

Industry	No. of establishments	No. of persons employed	Industry	No. of establishments	No. of persons employed
Cotton factories ...	9,587	387,301	Shipbuilding and engineering ...	19	24,434
ute mills ...	96	348,982	Ordnance factories	24	22,193
Cotton ginning and bailing ...	2,956	190,102	Saw mills ...	214	17,806
Railway workshops ...	154	142,347	Matches ...	44	16,841
Rice mills ...	1,681	78,966	Sugar factories ...	45	15,076
Tea factories ...	935	63,086	Bricks and tiles ...	129	14,796
General Engineering ...	306	49,964	Rope works ...	40	18,519
Printing and bookbinding ...	389	41,002	Oil mills ...	279	14,278
Iron and steel ...	6	36,590	Petroleum refineries	13	12,078
Jute presses ...	115	37,300	Cement, lime, etc.	32	11,370
			Kerosene tinning and packing ..	29	10,991
			Tobacco ...	18	10,597

The large disparity between this and the Census Table in such seasonal industries as cotton gins and rice mills is explained by the fact that the Census figures represent conditions of one particular day in the year. In other cases the classification adopted is somewhat different. In the tea industry only the population employed in the industrial process is taken account of. These figures do not take account of the mining industry. The major industries included in

the table have all been dealt with separately. This table also brings out the preponderance of the accessory, seasonal and repair industries in India. The very small proportion of the factory population is also apparent. Roughly it may be taken that a total of only about two million persons are engaged in modern industry in India at the present, and even out of this the larger proportion of those engaged in seasonal industries follow agriculture as their main occupation.

Section III—*Labour*

On the report of the Factory Commission of 1908 Government, accepting in the main the views of Dr Nair, introduced a bill in 1909 which was finally passed in 1911. The old differentiation between textile and non-textile factories was kept up in this Act. The Act provided for the limitation of the working hours of children and women to seven and eleven respectively and a compulsory recess for half an hour in the middle of the day in all factories. The old limits (nine to fourteen) for the age of children were retained though provisions were made for getting the age properly certified. In the case of textile factories, in particular, the working hours of children were limited to six and of adult males to twelve and they were prohibited from using mechanical and electrical power for more than twelve hours a day. New provisions were also introduced regarding the health and safety of the workers. The provisions of the 1892 Act, as pointed out above, had been a dead letter to a very large extent, on account of inadequate inspection machinery. This was remedied under the new conditions and inspection was made much better. The only notable new abuse that sprang up under the 1912 Act was the practice of employing children in two different factories, thus converting half-timers into full-timers.

The inquiry into the conditions of factory labour had been started in 1905 on account of the existence of some glaring abuses in Bombay mills made possible by the introduction of electric light. It is also true that in the case of most labour legislation, including that of 1912, pressure from Lancashire and Dundee was to a large extent responsible for its initiation. In no case could it be said that the agitation for a bettering of these conditions had proceeded from the workers themselves. To a certain extent this state of affairs was

changed by the war. For the first time there arose in India what may be called a labour movement. The general awakening, which was one of the universal results of the war, combined with high prices and stationary wages, which meant deplorable living conditions, was responsible for this. All industries in India were doing extremely well in the later years of the war period. Large increases in the price of most manufactured commodities had come about without any corresponding rise in wages. The credit of being the first trade union proper in India is usually given to the Madras Labour Union formed by Mr B. P. Wadia in 1918. Similar bodies sprang up rapidly in most other industrial centres. Strikes followed, aimed chiefly at getting higher wages. Naturally these new growths were not all of them well organized, but the labourers learnt during the post-war period the value of organization and the efficacy of the strike weapon. The years 1919 to 1921 were the most prosperous years for the new labour movement in India. The industries had been generally doing well and the manufacturers were anxious not to lose many working days during the boom period. The wage level had also lagged considerably behind the general prices and there was, therefore, a large margin left for increments. This period was, therefore, one of generally short and on the whole successful strikes. The success of the strikes helped the growth of the movement and it spread rapidly all over India. The year 1920 was specially characterized by a series of successful short strikes. There were a series of strikes in the jute mills in Calcutta, in Jamshedpur, in the coal-fields and in the cotton mills of Bombay and Ahmedabad. There were also strikes of employees on railways, docks, in the postal department, etc. Most of these were followed by increases in wages and the Bombay and Ahmedabad cotton operatives also obtained from their employers a ten-hour day. This, however, was not to last. The boom had ended for most industries in 1920 and already in the first quarter of 1921 a steady decline in the number of strikes and a strong tendency to an increase in their duration and in the proportion of unsuccessful strikes were observable.[1] These tendencies appeared everywhere except in the cotton industry which was still prosperous and in which a large number of successful strikes took place in con-

[1] *Journal of Indian Industries and Labour* (May 1921).

nexion with the bonus question in the last quarter of 1921. From 1922 the era of successful strikes came definitely to an end even in the cotton industry, and the labour movement began with the depression in industry to experience a period of acute difficulties. The only serious strike in 1922 was that on the East Indian Railway, and with the Ahmedabad Mill strike of 1923 began the reverse process of fights against the inevitable reduction in wages. For some years the strike weapon was less and less used till with the full effects of depression beginning to be felt there was a recrudescence of strikes in 1928.[1] In this the bitter dispute at Jamshedpur and the long and protracted struggles of the cotton operatives in Bombay in 1928 and 1929 were most prominent. Since 1929 there has been a distinct fall in the number and intensity of labour disputes as a result of the utterly helpless position to which the vast mass of unemployment has reduced the working classes.[2]

Trade union organization in India is hardly a decade old and it is no wonder that it is still in a primitive stage. Most of the early unions were hardly better than strike committees and, though federations and congresses came early in the movement, the element of consolidation is but small. The history of the last decade has followed the usual line of trade union history. The movement began with a series of successful strikes during the upward curve of the trade cycle and rapidly increased in numbers and strength. With the advent of an adverse period a great many of these mushroom growths perished, and the whole movement was for a time at a very low level of membership and funds.

Another difficulty that the trade union movement met with at the very outset in India was the legal liability, both civil and criminal, of trade union officials in conducting strikes, etc. This question was early considered by Government and in 1926 was passed the Trade Unions Act, by which a certain measure of protection from this liability was given to trade unions registered under the Act. The Labour Commission has recommended a reconsideration of this Act especially with reference to the limitations imposed on the activities of Trade Unions and their officials.

[1] *Report of the Royal Commission on Labour* (1931), chap. xviii.
[2] Ibid. and 'Industrial Disputes in 1932', *Labour Gazette*, January 1933.

This was followed in 1929 by a split among the leaders of Indian Trade Unions and today the movement as a whole stands at a low ebb. It is difficult to estimate the numbers in the movement but, according to the Whitley Commission, at the end of 1929, 87 unions claiming 183,000 members had been registered under the Trade Unions Act, of which 38 with 90,000 members were in the Bombay Presidency.[1] The usual trouble about non-recognition is being faced by the Union movement in this country and there is also a special problem here of outside leaders. For with an almost complete absence of education amongst the labourers the Trade Union movement has had to look to outside leaders for initiative and guidance. This has, however, often been made a pretext for refusing recognition to the unions by employers. The Trade Unions Act already provides that among the officers of a registered Union at least half shall be employed or be actually engaged in the industry to which the Union belongs. The Labour Commission recommends that this minimum provision should be extended to two-thirds. The migratory character of the labour force is another grave handicap to Trade Union organization in India. Where unemployment brings about a wholesale exodus back to the villages the Union membership is bound to suffer. The movement is the strongest in the Bombay Presidency and though all-India statistics are lacking we are fortunate in possessing detailed information for the last decade about this Presidency. These statistics show that in June 1922 there were 22 Unions in the Presidency with a membership of about 58,000. For the four following years though the number of Unions rose the membership was either declining or stagnant. From the beginning of 1926, however, it rose rapidly reaching a high level in March 1929 of 95 Unions with over 2 lakhs of members. There was an equally rapid fall during the years 1930 and 1931 and in September 1932 there were 100 Unions with about 112,000 members in the Presidency. A large percentage of the membership is, however, non-industrial as the following percentage table of classified membership will show: Textiles 27.1, seamen 26.7, railways 23.3, posts and telegraphs 8.0, municipal employees 2.6, miscellaneous 12.3.

The ferment in the world of labour since 1919 had attracted the

[1] *Report*, p. 32.

attention of many to the working conditions of labour in India, but the main incentive to a further amendment of the Factories Act came this time also from outside. India was an original member of the League of Nations and the draft conventions and the draft recommendations adopted by the Labour Conference at Washington necessitated a revision of labour legislation which the Government of India could not very well avoid. The Legislative Assembly in 1921 passed a resolution to ratify the conventions and the next year the new Factories Act was passed. By the new Act the definition of the factory was much widened ; any establishment not employing less than 20 persons and using mechanical power came under its scope. The old distinction, which had been maintained in all previous legislations, between textile and non-textile factories, was also abolished. The minimum age for the employment of children was raised from 9 to 12 and the maximum from 14 to 15 and no child could be employed without the production of a medical certificate. The working hours of adults were restricted to 60 hours a week and the mid-time recess increased from half an hour to one hour. Regulation was also made as to payment for overtime work. These were the chief provisions. The Act was amended slightly in 1923 and again in 1926. The amendments in 1926 were adopted to ensure a smoother working of the Act and were the result of the recommendations of a conference of the Chief Inspectors of Factories of the various provinces. The most important of these amendments was one which made it an offence in a parent or guardian to allow a child to work in two factories, a provision intended to check an abuse, noted above, which had become common in some industrial centres, especially Ahmedabad, since 1912. The scope of the new Act is much wider than that of the old one and the inspecting machinery under it is also much more elaborate. The Royal Commission on Labour in India, which, among other things, exhaustively reviewed existing labour legislation in India, made a series of recommendations regarding further amendments to the present Act. The most important of these recommendations were for the weekly limit of hours in perennial factories to be reduced to 54 and the daily limit to 10, and for the introduction of legislation to ensure that the total working hours of any individual were not spread over too long a period during the day, thus depriving him or her of proper continuous rest. This was recommended as the Com-

mission found notable abuses in this regard in the case of the working of the shift system, especially in jute mills. There were recommendations also for providing that persons between the ages of 15 and 16 should not be employed as adults without a medical certificate, for more strictly regulating overtime and basing the grant of exemptions on proper uniform standards throughout India. In case of seasonal factories the new hours were not recommended but a more vigorous administration of the law and much more sparing and uniform grant of exemptions was urged. A special recommendation was made to control artificial humidification where it caused serious discomfort, and for prescribing legal minimum provision for water supply, shelter, latrine accommodation, first-aid appliances, etc., for the workers. The Commission also recommended that some of the factories at present unregulated should be brought under legislation. In the case of small factories using power it was recommended that local Government should be given power to apply certain sections of the Factory Act to these where conditions of work were dangerous. In the case of factories not using power which are at present entirely unregulated the Commission thought that a separate, brief and simple Act was necessary. The Commission was specially impressed with the conditions of child labour in the bidi and carpet factories, and with the working conditions (dangerous to the health of the worker and extremely insanitary) that obtained in wool cleaning establishments, in shellac factories or tanneries. They, therefore, recommended legislation providing for an age limit for children, regulation of the hours of work of children employed and some safeguards for the health and safety of workers.

Regulation regarding conditions of factory labour, especially textile labour, had been comparatively elaborate before the war. The conditions in mines, on the other hand, had been curiously enough extremely ill-regulated. The Mines Act of 1901 was a very ineffective piece of legislation. The Mines Act of 1923 remedied this defect. It widened the scope of the Act by taking in shallow workings also; it prohibited entirely the employment of children under 13; it restricted the hours of adult labour to 60 hours per week overground and 54 hours underground and it prescribed a weekly day of rest. The mine-owners were not much used to statutory regulation of labour and they were evidently not prepared immediately to put

the Act into operation, and the Chief Inspector of Mines in his report for the year 1925 stated that the employment of children had not been completely stopped even though the Act came into force from July 1924. The Labour Commission thought that weekly hours overground should be limited to 54 and that no child under 14 should be employed either in or about the mines. They recommended the re-examination of the question of underground hours, a greater representation of labour on Mining Boards and that greater attention should be paid to welfare activities in the mines area. The changes brought about by the 1923 Act were large, but that Act still left one question undecided. And this was the question of the employment of women underground. The cause of the continuous persistence of this in India is the so-called 'family system' of working in the mines. The total abolition of the labour of women had been repeatedly advocated, but it had always been stoutly opposed by the industry as a measure that would result in upsetting the whole of its labour economy. The Mines Act of 1901 had given powers to the Governor-General to prohibit the work of women underground, but this power had never been exercised. When after 1922 the subject was reopened and opinions invited, strong opposition was met with from the Bengal and Bihar coal industry. It was chiefly in this and the Punjab salt mines that considerable female labour was employed. The arguments put forward against prohibition were that, as women formed a very large portion of the labour force, any immediate prohibition would create serious shortage of labour; that underground conditions were not physically harmful to women, or normally so, as the work was on the family system.[1] On this last question, the opinion of the Chief Inspector of Mines is emphatic enough. He says: 'The family system is not always what it seems, for it is not unusual to find the carrier to be someone else's wife.'[2] It has by now been recognized that a total prohibition must sometime come about, but the Government have evidently taken the view that any sudden prohibition would be harmful to the coal industry. Regulations have been issued by which the underground employment of

[1] 'Employment of Women in Mines', *Indian Industries and Labour Bulletin*, No. 35 (1926).

[2] *Report* for 1923.

women will be prohibited in the mines in all provinces immediately, except in the main coal-fields and the Punjab salt mines in which the labour of women will be gradually reduced, complete cessation coming about by 1939. The Royal Commission on Labour made some special recommendations regarding the Burma lead mines and the petroleum industry. They also recommended that the Mining Industry Act (1926) of the United Kingdom should be examined for the purpose of considering how far similar provisions would systematize the grant of mining leases in India.

Another important piece of labour legislation was the Workmen's Compensation Act passed in 1923. It applies to railway and tramway employees, factory and mine workers, seamen, dock labourers, building trade employees, linesmen, sewage workers and members of fire brigades. The Government of India is further empowered to extend by special notification the operation of the Act to workmen employed in any hazardous occupation. The scales of rates at which compensation is payable to a workman are laid down in the Act and special tribunals have been set up under the Act to adjudicate in cases of dispute. The most important recommendation of the Labour Commission regarding the Act was that it should now be extended to cover as completely as possible the workers in organized industry, whether their occupations were hazardous or not ; and that there should be gradual extension to workers in less organized employment, beginning with those who are subject to most risk. They also suggested a number of minor amendments to the Act making the administration of it more liberal from the workers' point of view.

An almost entire lack of a concentrated series of statistics makes it difficult to judge the movement of the wages of labour during the period under review. Broadly there seems to have been no increase in wages till 1918 at all. Wages in industrial centres then rose steadily till about 1921. The percentage of the rise differed widely from industry to industry. The following figures may be cited from those given in evidence before the Currency Commission of 1926. Wages in the jute mills of Bengal showed the first distinct rise in 1919 ; by October 1920 they had risen to 50 per cent over the 1914 wages and were reported still to have remained at that level in 1925. In the Bombay cotton industry the first increase in the shape of a 10 per cent bonus was granted in July 1917. This was increased

to 15 per cent in January 1918, to 35 per cent in January 1919 and from 35 to 75 per cent in January 1920. The hours of work were also reduced from 12 hours to 10 in January 1920. There was a further increase in wages in November 1920. One estimate was that wages in Bombay in 1921 were 131 per cent higher than in 1914. A somewhat detailed series of figures given in the *Labour Gazette* of Bombay[1] compares wages in the Bombay Presidency textile industry for the years 1914, 1921 and 1923. This shows in the actual monthly earnings of all workpeople in the industry an increase from May 1914 to May 1921 of a little less than double in Bombay and Sholapur, and somewhat more than double in Ahmedabad and other smaller centres; while from May 1921 to August 1923 the figures show that the wages were stationary in Bombay, declined slightly in Ahmedabad and declined considerably in Sholapur and other centres. In the coal-fields wages were reported to have risen in 1919 and 1920 and to have begun to decline in 1925,[2] but it is difficult to gauge the extent of these movements. The Labour Commission has recorded its opinion that by 1923 workers were generally better off than before the war.[3] There has, however, been given in the report no data supporting these conclusions and at any rate, they seem too sweeping. Possibly they are based on the series of annual articles on Labour and Wages in the Bombay Presidency published in the *Labour Gazette*.[4] Here the data, especially pre-war ones, are obviously too vague for much reliance to be placed on them. There is no doubt that during the present slump of prices wages have not yet declined as heavily as the prices but this makes no allowance for the incidence of the considerably increased amount of unemployment.

The Labour Commission made an attempt to gather together reliable information regarding the income of labourers in various parts of India and the way it was spent. The attempt was not very successful but what information was gathered showed a remarkable variation in the rates paid in the various provinces. In Burma the wages are,

[1] May 1925.
[2] *Reports of the Chief Inspector of Mines for the years* 1919, 1920 *and* 1925.
[3] *Report*, p. 196.
[4] See, for example, the *Labour Gazette* for December 1932.

of course, much higher than anywhere in India. But even in the provinces the variations are remarkable. For, while in the U.P., Madras, the C.P., and Bihar and Orissa in the majority of cases recorded the wage earned was less than Rs 17-8 per month, in Bombay the percentage of cases in this group was less than 15. The Punjab and Bengal also showed a much higher average wage than the four provinces mentioned above. The Labour Commission, though impressed with the general low wage standard of the Indian labourer, was unable to recommend the instituting of a statutory minimum wage except in the case of tea plantation labour. In this latter case on account of the peculiar isolated position of the worker, the strong organization and prevailing 'wage agreements' among planters and the variety of concessions etc. of which the real wage is made up, the Commission recommended that it was desirable, if practicable, to set up a statutory wage-fixing machinery.

Among the recommendations made by the Labour Commission for raising the standard of living among industrial workers are the substitution, so far as possible, of the regular for the irregular worker, standardization of wages especially in the Bombay cotton and Calcutta jute industries, and legislation regarding the deductions allowed to be made by employers from the wages of labourers and the fines to be imposed upon them. The Commission was impressed with the need for imposing restrictions on the sale of liquor in the large industrial cities. They also attached great importance to the chronic burden of indebtedness as affecting the worker's standard.[1] On his behalf they made a number of recommendations such as that the salary and wages of all workmen receiving less than Rs 300 per month should be exempted entirely from the possibility of attachment ; that arrest and imprisonment for debt be abolished, at least so far as industrial workers, earning less than Rs 100 per month were concerned ; that employers should adopt a system of weekly payment ; that legislation should be enacted providing a summary procedure for the liquidation

[1] Though no definite data were available the Labour Commission estimated that in most industrial centres the proportion of families or individuals who are in debt is not less than two-thirds of the whole and that in the great majority of cases the debt exceeds three months' wages and is often far in excess of this amount. They also found that 75 per cent per annum was a very common rate of interest on the loans contracted by the labourers. *Report*, pp. 224-5.

of workers' unsecured debts, and that besetting an industrial establishment for the recovery of debts should be a cognizable offence.

There remains lastly the question of labour supply in India to be considered. The nature of labour supply, of course, differs in each industry. The broad features of this we have already indicated above. That the Indian labourer still keeps up some connexion with the land is true everywhere but not true in the same way. On the Assam tea gardens, he is entirely at the mercy of the plantation and yet planters have found it easier to retain their labourers by giving them rice land or garden plots to cultivate and thus turning them into part-time agriculturists. On the coal-fields of Bengal and Bihar and Orissa the labour supply is very largely seasonal and the abundance of labour supply varies inversely with the quality of the agricultural season. In other industrial centres the connexion with agriculture is of a varying degree, approaching in a city like Bombay to a vanishing point, meaning in this last case merely that the majority have a village home to return to. The reasons why this labour does not get settled industrially have also been discussed above. Quite apart from the conservatism of the labourer is the fact that, in most cases, where there are industries large enough to call for the existence, permanently, of an industrial labour force, the conditions are not attractive enough to bring this about. The wages may be low, the work may be exhausting, or the conditions of housing, etc., may be atrocious. In the Calcutta jute industry the wages are enough to attract the emigrant from the United Provinces but not good enough to attract the local labourer.[1] Unless in any place the conditions of industrial labour are decidedly superior to those of agricultural labour, no permanent industrial labour force can come into being. The wage level in the main coal-fields is low, lower than in many mines in other parts of India,[2] and cannot attract a large body of immigrants. The industry has, therefore, to content itself with the local labour of aborigines. In the Madras Presidency labour is not migratory to any considerable extent and it has been stated that here 'as organized industry settles itself permanently, it could, in the course of a few years, create an artisan class depending on that industry and not dependent on

[1] Broughton, *Labour in Indian Industries, chap.* v (1924).
[2] *Report of the Chief Inspector of Factories* (1923).

agricultural employment'.[1] The unwillingness to pay adequate wages and the unattractiveness of the life in industrial cities were the reasons of the scarcity of labour in such cases. We have already referred above to Dr Nair's opinion that the work in the Bombay textile industry rapidly uses up a man. The so-called abuse of absenteeism is merely a result of the conditions of work. A recent observer says: 'The question of time-keeping is very important in India. In many ways it serves as an index of the state of fatigue produced. When wages are good, men do not stay away for trifling reasons. They do so primarily to restore the energy they have expended in their work.'[2] The shortage of labour, for example, in coal-cutting is due to the strenuousness of the work involved. Other living conditions in India also prevent a stable industrial population from growing up. Among these the most important is the condition of housing. Most observers are agreed that there is no possibility of continuing family life under the housing conditions of most factory centres.[3] The conditions are extremely bad in most industries. There are a few jute mills in Calcutta which provide housing for their coolies, but the others have to live in wretched *busties*. On the coal-fields, where, for example at Giridih, good housing is provided, the labour is not fluctuating. A committee which went into the question of the housing of colliery labour in Bihar and Orissa in 1917 found that for a majority of the collieries there was a real scarcity of accommodation throughout the busy season—November to May—a large number of the labourers being housed at this time in mere huts of straw. The Bihar and Orissa Government have accepted the recommendations of this housing committee, but the programme originally outlined by them for removing the housing shortage has had to be continuously postponed owing to the financial difficulties of the coal industry. Certain detailed inquiries made during the census of 1921 brought forth statistically the appalling conditions of overcrowding in some Indian centres. Of the total Bombay population 70 per cent lived in one-roomed tenements with an average of a little more than 4 persons per room. In one

[1] Lokanathan, 'Labour in Madras Industries'. Paper read before the 7th Indian Economic Conference (1924).

[2] Broughton, op. cit., p. 188.

[3] Broughton, op. cit., chap. v, and D. F. Curjel, 'Women's Labour in Bengal Industries'. *I.L. and L. Bulletin*, No. 31, chap. iii. Also *Report of the Royal Commission on Labour*, p. 245.

section of the city 96 per cent lived in one-roomed tenements, with 5 persons per room. Conditions in Karachi were even worse. Of the north Indian cities, Cawnpore—industrially one of the most important—also showed a percentage of 64 of the total population as living in one-roomed tenements.[1] These figures would show what enormous overcrowding there was in many industrial cities and when they are considered together with the defective water-supply and the almost entire absence of sanitary arrangements, it is hardly to be wondered that no permanently settled factory population grew up in industrial centres and that the Indian worker kept up a connexion with his village and returned to it as often as he could, even though his connexion with agriculture had been severed long before.[2]

Section IV—*The Town and Country Artisan*

The general characteristics noted above[3] in the transition of the urban handicrafts of India were a decline in the old Indian handicrafts and the rise of small groups of new handicrafts or new forms of old handicrafts turning out goods for much wider markets. The organization in these industries is in the main either that of the artisan working for a middleman or the workshop organization. The chief urban industries are cotton weaving of a superior sort, brass and copper-ware and cutlery, various kinds of wood-work and such miscellaneous industries as soap-making. The decline of old handicrafts was almost complete by the end of the nineteenth century and it would appear from the available evidence on the subject that no large change has come over this group of industries during the period under review. We have no definite information on the point, but such a survey as the post-war industrial survey of the various districts of the United Provinces would show this to be the case. Some

[1] The following extracts present a vivid description of the housing conditions in Rangoon. 'It is not unusual to find a tenement room 12½′×40′ occupied by as many as 40 to 50 people.... In some rooms there are two sets of tenants, one occupying it during the day and the other during the night. Families are often found in these lodging houses, gunny blanket partitions being erected to secure a certain amount of privacy.'—*Labour Gazette* (December 1928). For this whole subject see *Report of the Royal Commission of Labour*, chaps. xiv and xv.

[2] The Labour Commission also held that under the present circumstances it was desirable to maintain the factory workers' link with the village and, as far as possible, to regularize it. *Report*, chap. ii.

[3] *Ante*, chaps. iii and xiii.

examples from this survey will briefly bring out some salient features of Indian urban handicrafts. Embroidery work everywhere appears to be the type of the sweated kind of domestic industry. The Bareilly furniture industry affords a good example of the advances to the artisan system. In this place, on account of the work of the Government Carpentry School a better class of carpenters had come into existence and furniture chiefly of the Western type was turned out. But as the artisan could not get into touch with his customer and as he was in continuous need of capital, the industry was in the hands of middlemen and the artisans were not, as a rule, prosperous. In spite of the experiment of a co-operative furniture workshop the system of advances still remained the rule in the industry. Small workshops were the rule in the metal and cutlery industries such as the Meerut scissors industry and the Aligarh lock industry. In hand-loom weaving the organization varied from the single independent artisan to such big factories as the one mentioned in the Allahabad survey working with 125 fly-shuttle looms. Improved machinery was but little used. For example, in the Aligarh industry, whose output of locks was considerable, all was reported to be hand-work. This absence of organization and the consequent inability to make use of improved methods sometimes resulted in entirely killing an industry, as was the case with the gold and silver thread industry in many centres.

The history of the gold and silver thread industry may be taken as typical of the changes in the fortunes of an Indian handicraft. This industry was an old-established one in a great many important cities all over India. With changes of fashion and the disappearance of the courts, the demand for the finer kinds of gold and silver thread vanished, but the ordinary embroidery industries have always been in a flourishing condition and the demand for cheap wire and tinsel has been continuous in large quantities. During the first decade of the twentieth century, however, the industry began rapidly to lose ground. For example, the Bengal monograph on the wire and tinsel industry dates the beginning of the decay of the Calcutta industry from 1877, when a German manufacturer took samples from Calcutta and began to import machine-made thread. The Calcutta industry, however, held its ground till 1897 as the machine-made imports were yet of an inferior quality. From the latter date, however, the quality of

imports improved and the native industry almost ceased to exist. In Delhi the decline of the controlling guild first led to deterioration of quality and after that foreign competition greatly depressed the industry. In the Bombay Presidency, except in Surat where machinery was being adopted, the industry was in a bad way. In Bareilly in the United Provinces where some mechanical improvements were adopted and mostly inferior stuff with imitation materials for ordinary local demand was turned out, the industry, to a certain extent, held its position and continues to do so. Surat was the most progressive centre of this industry and certain mechanical improvements in the methods of production had begun to be introduced there even before the war. Even so the industry at Surat was in a declining condition almost up to 1920. The post-war period has witnessed a remarkable revival chiefly because of the imposition in 1922 of a revenue duty of 30 per cent on imported gold thread and because the lowering of gold thread prices after the war induced and increased consumption of it in India. The Tariff Board which conducted an inquiry on the industry in 1930 found that the chief centres of the Indian industry, viz. Surat and Benares (more especially the former), had captured the whole of the market in North and West India. The hand-loom weaving industry of the Madras Presidency, however, used in the main the finer quality imported thread. The Tariff Board recommended an enhancement of the duty to 50 per cent partly to counteract the effects of the duty on silver and partly to increase the protection already afforded by the revenue duty. The industry, a predominantly luxury industry, is in a specially depressed condition at present.

The small artisans represent the most numerous body of industrialists in India. These may be broadly divided into two classes. One class is comprised of artisans like the carpenter and blacksmith and is engaged in a great deal of repair work; the other is represented by the hand-loom weaver, the potter, etc., and forms the real bulk of those engaged in what may properly be termed cottage industries. It is not possible to estimate the numbers engaged in the cottage industries, nor can we statistically gauge the variation in fortunes of these industries. The census statistics, which are the only ones available, are unreliable, because it is impossible at census time to distinguish clearly between subsidiary and main occupations and a great many of the cottage industries are carried on as occupations

subsidiary to agriculture. The variations in the census figures are, therefore, no guide to the numbers engaged in these industries.[1] The most important factors bearing on the fortunes of some groups of village artisans have been enumerated in another chapter[2] and there does not seem to have been any considerable change in these during the period under review. In the chapter on the 'Country Artisan' the class of village artisans, as such, has been dealt with and attention directed to those big groups which were to be found all over India and those in which the occupation was whole time and not usually a subsidiary one. Of the groups thus considered, the carpenter and the blacksmith stand in a class by themselves. A considerable portion of their work is repair work and they have an intimate connexion with agricultural economy. Their position is comparatively more secure than of others in the old group of paid village artisans. The village tanner is a continuously decaying class and his work being socially looked down upon, tanning could never become a common cottage industry. Dyeing and hand-loom weaving on the other hand are cottage industries proper and they were universal almost throughout India. Of these, dyeing—with which should also be associated printing—had suffered considerably from the competition of cheap synthetic dyes and has never since recovered much. The contrary is the case with the hand-loom industry. As pointed out above, it must have suffered a decay whenever it first met the competition of mill-made goods, but after losing a certain amount of ground its position has almost everywhere been stabilized. And it may be said actually to have prospered somewhat during the period under review.

The Industrial Commission have tried in a separate note to their *Report*[3] to measure the extent of this industry. They find that the broad indications are that the yarn consumed by the industry has progressively increased and that at least since the beginning of this century the hand-loom industry of India has grown steadily. There is every reason to believe that since the war the production of cloth from hand-looms has increased even over the pre-war average and, according to calculations along lines suggested by Mr K. S. Rao, the

[1] Cf. the section on the Census of Hand-looms in *The Report of the Census of India*, pp. 270, et seqq. (1921).

[2] *Ante*, chap. xii.

[3] Appendix i.

textile expert to the Bihar and Orissa Government, it would seem that the average post-war production from hand-looms is well over 1,200 million yards per annum. The conditions of war-time with very high prices of imported and home mill-made cloth, the general tendency in the post-war period to an increase in the consumption of coarse cloth owing to the abnormal increase in the prices of finer varieties and to some extent the propaganda in favour of *khadi*, are all responsible for this. In some places the improvement of the hand-loom weavers' methods, such as the adoption of the fly-shuttle and better methods of the preparation of yarn etc., have also helped the industry to retain its position and also in some cases to conquer new fields such as the export trade in *lungis* to Burma secured by the hand-loom industry of the Northern Circars.[1] It should, however, be noticed that the hand-loom industry holds its own on account of the very low rate of remuneration with which the weaver is content for a very hard day's work. Working hours are almost the whole day except for a short break of two or three hours in the afternoon. The whole family is employed. The men weave and the women and children prepare the thread and set up the warp. Earnings vary. In a recent survey the following estimate is made: 'With a capital of Rs 70, a weaver can earn from Rs 15 to Rs 20 a month according to his ability and to the nature of the looms.'[2] This represented the ordinary range of income of the independent weaver. But the independent weaver with so much capital is not common. A very large number are dependent on the middlemen for their supply of yarn as well as for the disposal of their produce. The more improved types of looms such as the fly-shuttle are not even now in general use in all parts.[3] Marketing, except in some places such as in the Coimbatore industry, is not at all organized. In some parts of the country, notably in Malabar and South Kanara, small factories have come into existence and are doing well, but side by side with

[1] Rao, op. cit. Also *Report of the Department of Industries, Madras, for the year* 1930-31.

[2] *Survey of Cottage Industries in Bengal* (1924), Mymensingh District.

[3] The information collected at the census of 1921 showed that the fly-shuttle loom was largely used in the Tamil districts of Madras and in the Telugu districts of Hyderabad and Madras. In Bengal the proportion of fly-shuttle looms was one-third of the total; it was less in Assam and Bihar and Orissa, and the fly-shuttle was comparatively rare in the United Provinces.

them also exist large classes of weavers who buy their yarn and sell their products in the local weekly markets and the fairs in the surrounding district.

Hand-loom weaving is by far the most important of the Indian cottage industries. There are a series of other industries which, though not so universal, are also important in various parts of the country. Metal working is not common as a village industry. Pottery, except where any glazed ware, dolls or any other specialized pottery ware is made, is also not important as a general cottage industry; the manufacture of the ordinary cheap ware is confined to the hereditary class of potters. Sericulture and silk and tusser weaving are also notable industries in certain parts. Sericulture is confined to parts of Mysore, Bengal and Kashmir, while the wild silk is produced in the Central Provinces, Bihar and Orissa, and Assam. Silk weaving is widely spread but is much more an urban industry. Sericulture is almost everywhere an occupation subsidiary to agriculture. The methods of rearing the worms as well as of preparing the silk are, however, very primitive and the industry is in a decaying state. The collection and preparation of lac is also a similar subsidiary industry. The manufacture of wool is not very widespread in India. The weaving of rough country blankets is, however, common in most parts of India. In the Punjab there is a considerable wool hand-loom industry and the making of cheap horse blankets is a very important village industry in and around Panipat.[1] Another large group of cottage industries is represented by basket-making, mat-making and cane work, rope and string-making, the manufacture of coir, etc. The existence of these depends on suitable raw materials being locally available. Basket-making from one or another kind of material is well-nigh universal though one of the least remunerative of by-occupations. Flax, hemp, jute, coir, are the raw materials for this group of important subsidiary occupations in different parts of the country. Rope and string-making from jute are carried on to a large extent by women in the jute districts of Bengal, while the manufacture of coir is the principal cottage industry of Malabar and is indeed so

[1] Badenoch, *Punjab Industries* (1917).

important that 'coir yarn is to some extent the currency of the coast'.[1] Industries connected with the use of shells, horns, etc., are also distributed with respect to local supplies of raw material, but this is a group which is comparatively unimportant. In the forest districts industries connected with forest products, and, in certain districts of the United Provinces and the Punjab, the manufacture of saltpetre, are other types of subsidiary occupations.

In common with the ordinary urban industry, the cottage industries of India suffered from want of organization, the non-adoption of improved methods and the want of a proper exploration of industrial possibilities. Even about an industry like basket-making we read : 'The average daily income of an adult is four to five annas. Marwari middlemen supply cane on credit and appropriate the greater share of the income.'[2] As regards the supply of raw materials and their preparation, conditions are also very bad. It is, for example, surprising to learn that the numerous bodies of blanket weavers in the Meerut district obtain their supplies of raw wool each year by going personally in groups to Rajputana and the Punjab.[3] No doubt a certain amount of improvement has taken place in the conditions in rural and urban artisan industries since 1850. The extent of it is best indicated in this quotation from the *Report of the Indian Industrial Commission* : 'The weaver has taken to mill yarn, the dyer to synthetic dyes, the brass and copper smith to sheet metal, the blacksmith to iron rolled in convenient sections. The tailors invariably employ sewing machines, and town artisans readily take to improved tools of European or American manufacture.[4] Yet it is true to say that both in the village and in the town artisan industry marketing organization is almost non-existent, and that in the preparation of the raw materials and in the methods of manufacture improvements are possible which would enormously improve the economic position of these artisan industries. In weaving and, in some provinces, in dyeing and printing, Government has done a little by means of demonstration parties and peripatetic instructors, but a great deal remains to be done in the investigation of cottage industries suited to particular

[1] *Report of the Census of the Madras Presidency* (1921).
[2] *Survey of Cottage Industries in Bengal* (1924). Nadia District.
[3] *Industrial Survey of U. P. Districts, Meerut.*
[4] Op. cit., p. 162.

localities and in the organization and improvement of those that already exist.

Section V—*Railways*

The management of railways has undergone an almost revolutionary change during the period under review. The period of the war was one of great difficulty for railway administration. The carriage of troops and war stores imposed a heavy burden on the railways, and the fact that the greater part of the coal had to be carried during the war years on railways rather than by sea added to their burden. While the service to be performed by railways was thus considerably increased, there was a considerable deterioration in railway equipment in India on account of the inability of Government to spend money on repairs, extensions, etc., of their inability to obtain railway stores and other materials, and of the necessity to supply rolling-stock, railway stores, etc., for war purposes in Mesopotamia. The Mackay Committee estimated that it was from about 1905 that railway facilities in India began to prove inadequate for the demand made on them, and the position on the eve of the war was far from satisfactory. It naturally became very much worse during the war years and the shortage of wagons and railway accommodation became positively unbearable during the period of the post-war boom. To meet the acute situation caused by the necessity for transporting military stores, etc., Government had in 1917 appointed a Controller of Traffic and later on a Central Priority Committee to regulate traffic according to the relative claims of the different classes of commodities. For dealing with the special problems of coal purchase and its transport the office of Coal Controller was created. Though most of these restrictions on traffic were withdrawn by 1919 the control of coal traffic by the Coal Transportation Officer remained in force for some time after.

Trade has necessarily to submit to stringent regulations during war-time, but as the difficulties continued and became even worse during the post-war boom year, 1919-20, public opinion was loud in calling for a speedy improvement. The extent to which railway facilities fell short of public requirements during this time will be clear from the evidence on the point summarized by the Acworth Committee.[1] It was also in the year 1919 that the contract made

[1] Chapter ii.

by Government for the working of the East Indian Railway was due to expire, and, to consider specifically the question of the future management of Indian railways and generally all cognate questions, a Committee was appointed by the Secretary of State in 1920, which reported in 1921. The proposals made by this Committee have largely shaped the subsequent railway policy and it would, therefore, not be out of place to indicate briefly their nature. The Committee was unanimous in condemning the existing method of financing the railways. The policy of annually allotting a sum for the capital programme of the railways according to the exigencies of the financial budget, while no reserves were built up for railway purposes, was in the Committee's opinion responsible, in the main, for halting and irregular development and for wasteful expenditure. It also led to inadequate expenditure on maintenance and renewals. To remedy this defect, the Committee advised Government to take the drastic step of separating the railway budget from the general budget. On the question of the constitution of the Government organ of control, the Committee recommended the creation of the office of a Chief Commissioner of Railways and an entirely changed constitution and functions for the Railway Board. For bringing railway administration into closer touch with the public and bettering the relations of railways and their customers, the Committee recommended the setting up of the Rates Tribunal and of representative Advisory Railway Councils. On the question of management the Committee was divided. The Committee was unanimous in condemning the practice of managing Indian railways from London, but while the Chairman and four other members recommended that, as the contracts with the guaranteed Companies fell in, the State should undertake the direct management of these railways, the other five members recommended the continuance of both the systems of company and State management, and proposed a scheme for the creation of an Indian domiciled company to take over the management of the East Indian Railway.

Indian public opinion was definitely in favour of direct State management and in 1923 the Legislative Assembly resolved in favour of taking over the East Indian and the Great Indian Peninsula Railways under Government management. These railways were taken over in 1925 and Government was thus definitely committed to the policy of direct State management. The policy of a separation of the

railway budget was also accepted by the Legislative Assembly in 1924 and on making an annual ascertained contribution to the general revenues, railway finance was made entirely independent of the vagaries of the annual general budget. Reserves could not be built up and elaborate programmes to be carried out over series of years could be safely undertaken. Suitable changes in railway organization, somewhat on the lines recommended by the Acworth Committee, were also carried out during these years.

The rates policy of the Indian railways had for many years been subjected to severe criticism by the public, the charge being freely made that the rates were made specially favourable for the export and import of commodities and unfavourable to the interests of internal industries and trade. The Industrial Commission also concurred largely in this opinion. From the very beginning the rates policy of Indian railways was to make high charges rather than to develop traffic. The guarantee to the companies had taken away from them all incentive to attract traffic. And Government had not been able successfully to influence or control the rates policy.[1] Another objectionable feature of the rates policy had been the system of charging block rates by the different companies to divert traffic from one another and in some cases this device had been ruthlessly used in killing the competition of other means of communications, such as in the case of the Broach Steamship Company. Sometimes also the distinctly higher rates for a shorter haul than a longer one, such as the case cited by the Stores Purchase Committee, the freight from Bombay to Lahore being less than the freight from Jalgaon to Lahore, justified this complaint substantially.[2] Further, there were too many special rates, and the whole rates policy wanted overhauling. It was to remedy these grievances in some measures that a Rates Advisory Committee was set up by the Government of India in 1926 to consider and report on any complaints by members of the public against any particular rates.

The year 1919-20 was one of peculiar congestion on the railways.

[1] N. B. Mehta, *Indian Railways*, chaps. iv and v.
[2] The Acworth Committee did not think that the charge of undue preference was correct as special rates to and from sea ports obtain in every country.

This was due both to an enormous increase in traffic as well as to the decreased capacity of the railways to deal with it. Immediately after the war, a considerable programme of special repairs and renewals which were long overdue was undertaken, but the difficulty of obtaining stores made it impossible to bring up the equipment early to a pre-war level. Congestion was, however, early relieved by the depression in trade that followed. This depression had the effect, taken together with the larger programmes of renewals, etc. and the higher costs of working, of making the railways for almost the first time since 1900 a heavy liability instead of an important source of revenue in 1921-2. Trade and passenger traffic, however, recovered early from this depression and within two years the railways were again making considerable profits. The defects in equipments were also speedily remedied and the effect of additions to rolling-stock together with technical improvements effected was so great that in 1926 the Railway Board found itself with a very large surplus of wagons on hand. The railways continued to do very well, until the year 1929-30. Since that year, however, depression has hit them very hard and there have followed a succession of deficit budgets.

The acceptance of the Acworth Committee's recommendations and the separation of the railway budget made possible a continuous and bold policy of railway expansion. Large programmes for capital expenditure were drawn up and it was estimated that these would mean an annual addition of nearly a thousand miles to Indian railway mileage for some years to some. The most notable feature of this programme was the camparative absence of long trunk line projects. We have remarked above that Indian railway construction began with the undertaking of large trunk lines covering the length and breadth of the country. That most trunk lines have by now been built is shown by the fact that apart from the two lines making the connexion of south with central and northern India easier—the Raipur-Vizagapatam and the Kazipeth-Ballarshah lines and the lines through the central Indian coal-fields—the new railway projects numbered nearly 100 and averaged not more than 49 miles apiece. The policy was to fill up the interstices of the network of trunk lines with useful branches and feeders—the absence of which has long been complained of. It was, however, not possible owing to the intervening depression to carry out this policy. The undertaking of

new works was suspended in 1930 and only the works under construction were afterwards completed. The activity in the latter half of the twenties is shown clearly in the following figures. The total route mileage open for traffic was in 1913-14, 34,656 miles, in 1920-21, 37,029 miles, in 1925-6, 38,579 miles and it stood at the end of March 1931 at 42,281 miles. No new programmes are now under contemplation both because of financial stringency and because the rapid development of motor transport makes necessary an entirely fresh examination of railway building policy.

It will be apparent how complete a change railway policy has undergone in recent years. The Indian railway system is now to a very large extent a State system, 71.8 per cent of the Indian railway route mileage in 1927 being owned by Government and 40.2 per cent actually managed by it. There is at present much more co-ordination, and the meaningless competition between different companies has been mostly eliminated. Railway policy is also more deliberate and is to some degree responsible to public opinion and alive to the country's needs.

The advent of the motor car has of recent years made road transport extremely important. We are indeed in this matter at the beginning of a revolution in transport conditions. Motor transport in its initial stages was supplementary to railway transport but it has now assumed a serious aspect as competitor for passenger traffic. It has hit the light railways most but even in other systems wherever there are good metalled roads parallel to the railways and especially where the roads short-circuit the railway route the competition of motor transport is severely felt. There is yet little development of the carriage of goods by roads but it is expected that with the revival of trade and a better organization of road transport agencies even this traffic will show the effects of the advent of the motor.[1] It will be possible to eliminate unnecessary and wasteful competition only if the further development of railway and road facilities is jointly planned and proper co-ordination brought about between the two agencies.

[1] Mitchell and Kirkness, *Report on Railway and Road Competition in India* (1933).

Section VI—*Conclusion*

The census of 1921 did not disclose any marked tendency towards urbanization in India. The total urban population formed 10.2 per cent of the total, an advance of nearly 0.6 per cent over the 1911 percentage. This is not a material change; in the various town groups there is no considerable change in proportions either. The Census Commissioner discovers in the 1921 figures a distinct tendency on the part of the urban population towards concentration in the bigger cities. The changes in one decade alone are not, however, enough to warrant us in supposing that there is a continuous tendency operating in that direction. For, as the table on page 136 would show, almost no change came over these groups during the period 1872 to 1911 and the change in the last census decade is not itself very considerable. The figures for individual towns do not disclose any special features. Among the bigger cities large increases are noticeable in Bombay, Calcutta, Rangoon, Delhi, Lahore, Karachi, Ahmedabad and Sholapur, while Hyderabad (Deccan), Allahabad, Benares, Lucknow, Patna and Jaipur are among the declining group of towns. The most remarkable increase is that of Jamshedpur which has risen from 5,672 in 1911 to 57,985 in 1921.

The 1931 census, on the other hand, discloses an advance in urban growth more or less of the same magnitude as recorded in the previous decade. According to the advance figures published the proportion of the urban population to the total was nearly 11 per cent. The increase it would also seem was the largest in the biggest group of cities, i.e., cities with a population of one lakh and more. Most of the cities that showed signs of decline at previous censuses showed a normal increase during the last decade and some cities like Delhi, Lahore, Amritsar, Nagpur and Salem showed quite a remarkable expansion of population. Among the bigger cities Benares and Ajmer could be described as stagnant and Mandalay and Surat showed positive decline. There was curiously enough a slight decline in population even in the case of Bombay. In the absence, however, of the reports for all provinces and of the figures as to the increase in various groups of towns it is impossible to comment further on these figures.

Two notable events mark the period under review: the change in

the attitude of Government towards industry[1] and the establishment of the iron and steel industry. The attitude of the State throughout the earlier period was one of absolute *laissez-faire*. Lord Morley was suspicious even of the creation of a Provincial Department of Industries. Tariff policy was governed largely by the wishes of English manufacturers and early labour legislation was prompted by them. The war changed all this. Even before the war some provincial Governments had been convinced of the necessity of doing something towards helping industries, but they were helpless. The war brought out in a striking manner the industrial poverty of India and made Government realize the national importance of an all-round industrial development. Government control of trade and industries was early undertaken and as the war proceeded the necessity of actively stimulating certain industries became very apparent. The need for munitions was specially insistent and in February 1917 a Munitions Board was set up as a result of a suggestion of the Commander-in-Chief. The Board was given wide powers; its chief object was to develop Indian manufacturing resources and apply them for war purposes. It was also found that it was not enough to stimulate and regulate production; some of it had to be undertaken by Government itself. An acetone factory and army clothing and leather goods factories were thus started.

Indian public opinion had always clamoured for active assistance to industries being given and at last Government appointed in 1916 an Industrial Commission, specifically to inquire as to how direct encouragement to the development of industries could be given by Government. Tariff policy was excluded from the Commission's terms of reference. The Commission reported in 1918, calling on Government to initiate 'a policy of energetic intervention in industrial affairs'. It recommended the establishment of imperial and provincial departments of industries, the organization of scientific and technical services, especially an All-India Chemical Service, the affording of greater facilities for industrial and technical education, an alteration in the policy of purchase of stores by Government and even more direct help being given to industry by certain kinds of financial assistance and by

[1] An admirable narrative of the new policy is contained in A. G. Clow, *The State and Industry* (1920-27).

starting 'pioneer' and 'demonstration' factories. These recommendations were in the main accepted both by the Imperial and the Provincial Governments. In the meantime, the exigencies of war finance had compelled Government to lay heavy revenue duties on imported commodities, and the absolutely perfect standard of free trade to conform to which, so it was said, the Cotton Excise duty had to be levied, was temporarily given up. The grant of reforms coming in soon after the war made possible the inauguration of a new fiscal policy. A Fiscal Commission was appointed in 1921 to determine the nature of this policy. The Commission came to the conclusion that the industrial development of India had not been adequate and that the further development of Indian industries would be to the country's advantage. It also laid down that a protectionist policy was necessary to attain this end. But while the majority advocated discriminating protection, the majority did not want to limit or qualify the policy of protection in any way. The majority recommended that discrimination should be used in the selection of industries for protection and in the degree of protection afforded so that the burden on the community might be as light as possible; that a Tariff Board be created to investigate the claims of particular industries to protection; and that this Board, in dealing with claims to protection, should satisfy itself that (*i*) the industry possessed natural advantages; (*ii*) it was not likely to develop at all or not so rapidly as was desirable without the help of protection; and (*iii*) it would eventually be able to face world competition without protection. These recommendations were accepted by Government and a Tariff Board appointed in July 1923.

Thus, within a decade of the outbreak of the war, a complete change had come over the policy of the Government of India in relation to industry. As a result of the Reforms, 'industries' have become a provincial subject and the recommendations of the Industrial Commission have been given effect to by the various provinces in various ways. At the outset Departments of Industries were started in every province, but latterly, owing to financial stringency and other reasons, the activities of Provincial Governments have not everywhere been directed with equal vigour. The project of the All-India Chemical Service was dropped in the initial stages and Provincial Governments have followed their own separate lines of action. The

Forest Research Institute at Dehra Dun is Imperial: the United Provinces Government maintains a Technological Institute at Cawnpore, and in Calcutta there is a research tannery. Work is done in Madras on leather trades, glue, etc., and there is a soap institute; this Government also maintains a Fisheries Department. Other Provincial Governments have attempted to tackle particular industrial problems. Individual industries have also been enabled by means of provincial legislation to tax themselves and undertaken research work out of the proceeds, as in the case of indigo and lac. Technical education has made a certain amount of headway and there are small weaving schools in almost every province. The hand-loom weaving industry is also helped by demonstration parties and peripatetic instructors. There has been a survey of industries in the United Provinces and a survey of cottage industries in Bengal and the Madras Presidency, and some provincial departments supply trade information, give technical advice and assist in setting up factories. As regards more direct help, demonstration factories have been started in many provinces, but most of them have failed. In Madras ink manufacture was by this method successfully established. But in other cases the experiments did not succeed. The Punjab Government Tannery proved a failure, so also the United Provinces Government's attempt at bobbin manufacture. A number of Provincial Governments have Acts under which they give financial assistance to industries, and an Act is now under contemplation in Bengal. Financial assistance given by Provincial Governments to large concerns has up to now mostly failed. The Madras Government lost heavily on their loans to the Carnatic Paper Mills, and the Bihar and Orissa Government on their loans to the Indian Steel Wire Products Ltd., while almost all the big loans given by the United Provinces Government have proved failures. Smaller loans given to small industrialists have, however, everywhere proved more useful, and the Bengal Government have successfully followed a systematic policy of helping ex-students of weaving schools. The Government of India have also effected a change in their stores purchase policy. Following the recommendations of the Stores Purchase Committee, a Stores Department has been set up, and it has been accepted that distinct preference should be given to articles of indigenous manufacture as long as the price is 'reasonable'.

By far the most important assistance, however, has been that given

by protective duties or by bounties. The Tariff Board was set up in July 1923 and since then it has inquired into the claims to protection of various industries. It was on its recommendations that help in various ways has continuously been given to the steel industry ; and it is not too much to say that the successful establishment in India of the iron and steel industry has itself been made possible by the changed fiscal policy of Government. We have already described above how protection has been accorded to cotton piece-goods, heavy chemicals, sugar, matches and gold thread. A general Bamboo Paper Industry Act giving protection to all kinds of paper except the cheapest has been passed (1927), and the duty on printer's ink has been enhanced. On the other hand, duties on zinc, sulphur, machinery, mill stores, etc., have been removed to assist the galvanized hardware, the chemical and the cotton textile industries. It is hardly possible to exaggerate the importance for Indian industrial development of the changed attitude of the State, and the mere enumeration of the various new activities undertaken by various Governments—Provincial and Imperial—is by itself sufficient to indicate the magnitude of the change.

In conclusion, though it is not necessary materially to qualify the general conclusions reached in chapter XIV, certain considerations which arise specially out of the survey of the latest period may here be indicated. Though the decade 1910-20 recorded a severe famine, heavy mortality did not result from it. The contemporaneous influenza epidemic—perhaps as a result of the combination of under-nourishment and high cloth prices—however, accomplished what famines had done in the past and the census of 1921 showed, as a result, a very small addition to the Indian population. The 1931 census, on the other hand, because of the absence of any abnormal happening, showed an increase of population to 352.8 millions, an increase of 10.6 per cent over the population recorded at the 1921 census. The problem of the pressure of population on land continues to grow more urgent. The diminution of food-grain exports, the steadily worsening cattle position and the progressive sub-division of land are all symptomatic of this. The Punjab Canal Colonies afforded some relief to those parts ; a successful Sukkur Barrage may also prove useful. The possibilities in the direction of irrigation development are, however, distinctly limited ; and no additional relief seems to be available in any other direction.

Indian capital has become distinctly bolder during the period under review and with large investment facilities available more of it is being sunk in industrial enterprises. In some industries, such as tea plantations, there has been a distinct trend observable of a continually growing share of the industry passing into Indian hands; and even in companies under non-Indian management, such as the jute mill companies, a majority of the shares are now held by Indians. The External Capital Committee also point to the large increase in the holdings of Government rupee loans and in the paid-up capital of joint stock companies since 1914 as further indications of this tendency. A very large portion of Indian industry is, however, still controlled by external capital and the control of this capital has become an important problem, especially since the policy of protection has been accepted. It has at least now been accepted that the benefit of protection should extend as far as possible only to companies registered in India with a rupee capital and having a certain minimum number of Indian directors. There are, however, many obvious difficulties in the way of carrying out this policy and at present at least there is no guarantee that a protectionist regime will benefit only Indians.

As regards the organization of Indian capital in industry the recent Provincial and Central Banking Committees have gone thoroughly into the question. The Central Committee recommends that an attempt should be made to make industrial enterprises in India less dependent on the managing-agency system and to establish direct friendly relations between industrial companies and commercial banks. The Central Committee and a large number of provincial committees are also in favour of establishing Provincial Industrial Corporations with branches if necessary, chiefly for providing long term capital to industries, and the Central Committee further recommend the enactment of provincial legislation on the lines of the Madras State Aid to Industries Act to provide credit facilities to new and nascent industries or industries newly introduced into an area, or cottage industries.

The Industrial Commission opined that Indian labour was inefficient but for that very reason capable of vast improvement. Events of the last decade have proved this to be very true. The Tariff Board found that the main reason of the successful reduction of costs in the match industry was the rapidly growing efficiency of labour.

The successful working of the tin-plate industry is another example of the innate capacity of the Indian labourer. In a recent interview the Regional Production Manager of General Motors in the East maintained that the average ability and intelligence of the Indian labourer is as good as in other countries. He further opined that what was required was education and patience to train the labourer at the right speed to make him efficient in kinds of work he was not used to.[1] The Industrial Commission had further pointed out the handicap to Indian industry in having to rely on foreign supplies of foremen and supervisors. In this respect also the progress made in various Indian industries has been satisfactory.

Amongst the various industrial deficiencies of India, most progress has been made in the metallurgical group. Iron and steel is now an Indian manufacture and steady progress may be expected in the future in the manufacture of a wider range of iron and steel products. Also if it is found possible to utilize the various Burma ores, a self-sufficient group of Indian metallurgical and chemical industries may well come into existence. At present, however, the other metal and the chemical industries do not flourish in India and the handicap in that direction continues.

Even more important than this is the fact that the problem of fuel and power is still unsolved. It is not so much the quantity of Indian coal deposits as their quality and their location that is unsatisfactory. In Western India, Madras, the Punjab, etc., the cost of carriage of coal is very high and industries in these regions are thus saddled with a special burden. The Tariff Board found the fuel costs of magnesium chloride manufacture at Kharaghoda, where wood fuel had to be used, one of the gravest difficulties of that industry. The same difficulty is felt with regard to the situation of many cement factories. Dr Fox, discussing the best location for the successful manufacture of glass in India, points out that the chief costs are in respect of alkali and coal supplies. As all alkali has to be imported, it should be located in a port and as coal costs have to be kept down, it could only be at Calcutta.[2] It is only round Calcutta and in the

[1] *Labour Gazette* (January 1929). Vide also 'Indian Labour Inefficiency a Myth', *Indian Textile Journal* (March 1928).
[2] C. S. Fox, *Notes on Glass Manufacture* (1923).

Jamshedpur area that large groups of industries can thus be expected to grow.

Extravagant hopes were, at one time, entertained about the possibilities of hydro-electric development in India. On investigation it has been found that, though a considerable amount of power is made available in certain areas, it is by no means as cheap as it was expected to be. On account of the seasonal character of the rainfall in India, a natural flow throughout the year for generating power can be obtained only in a few exceptional cases. Almost everywhere, storage of the monsoon fall has to be resorted to. The capital cost of such schemes is very large and power cannot, therefore, be cheap. The first important project in India was the Tata Hydro-Electric Co., which began supplying energy in 1915. This is a monsoon storage scheme situated in the Western Ghats. In the same area two other companies, also controlled by Tatas, are now working. These supply together all the power consumed by Bombay City and the cotton mills of the Bombay area. The Tata Hydro-Electric Co. began to supply energy to the cotton mills in 1915 at half anna per unit and agreed to supply it at that rate for ten years. This was distinctly cheap, especially during the post-war period of very high coal prices. But the Company has raised its charge to three-quarters anna per unit since 1925 and doubts are now entertained whether this works out any cheaper than coal in Bombay.[1] The only important hydro-electric scheme in other Indian provinces is the Mandi scheme in the Punjab. This in its first stage of development is expected to supply in electricity to about 20 towns in the Punjab. It is said that, if the potentialities of this site are fully developed, it will be able to generate enormous quantities of power and supply cities as far as Delhi. Only the first stage of the scheme has, however, been sanctioned. It is estimated that power will be supplied at ¾ anna per unit by this scheme. The recent development of hydro-electricity has made available an alternative source of supply of power in and around Bombay and may do so soon in certain Punjab cities. But even in these places, where coal is specially dear, it has not afforded any substantial reduction in power costs. This development has added largely to the power

[1] This development has further not helped the smaller industries, as power is not supplied to industries consuming less than 5 lakhs units per year.

resources of India, but the power is not cheap power. The Industrial Commission had hoped that cheap electric power being available, a group of electro-chemical industries would come into existence in India, that an aluminium industry would be raised, for example, on the basis of the Konkan bauxite deposits. Electro-chemical industries require, however, very cheap power. It should be available, it has been estimated, at less than a quarter anna per unit.[1] This is much below what at present is possible in India.

Though many hopes of war-time have been belied, much has also been achieved. With iron and steel manufacture established in the country and with the changed policy of the State, the prospects of the future are much better than in 1914. Looked at quantitatively, however, the advance made is yet too small. It should futher be remembered that India is a country made up of many separate natural economic areas and a country of long distances. While for a few areas the advance made has been considerable, for others the period has brought little change, and for India as a whole the near future at least does not seem to hold in store a period of rapid industrial transformation.

[1] *Capital, Indian Industries Supplement*, 13 Dec., 1928.

APPENDIX

A Note on a Weekly Market[1]

THE importance of a fair was considerable, even in the old Indian economy, and it grew with the construction of good roads. The following account of a weekly market in a district of the Central Provinces, just after road-building had vigorously begun, will illustrate some points discussed in chapter XII.

'An important article in the trade in Chinmoor which finds its way to the weekly fair. . . . is the manufacture of coarse cloth, which is entirely in the hands of "Dhers".[2] . . . . The cloth is coarse and strong and is in great favour among the Koonbee cultivators of Berar. . . .whom the comparatively flimsy but smart-looking English-made cloth does not suit. . . . That the trade has not been much affected by the high prices of raw cotton is probably accounted for by the fact that the price of cloth, if it has not risen quite in proportion to the increase in the price of raw material, has yet risen considerably. It is bought in larger quantities than ever by the prosperous Koonbees.'

Notes were taken by Mr Rivett-Carnac of the stalls held by different traders. Of a total of 1,404 stalls the most important were :—

521 Cloth sellers (110 'Koshtees', weavers of fine native cloth; 350 'Dhers', selling coarse cloth of their own manufacture).
139 Provision sellers (75 molasses, 'gur', salt, 34 fish).
160 Vegetable sellers.
96 Grass sellers.
75 Sellers of iron (tyres for cart wheels, plough-shares, axes, etc., in large quantities).
70 Oil and oil-cake sellers.
65 'Pansarees' or grocers.

There were only thirty grain stalls, but there were also twenty-five cart-loads of raw cotton 'from which Dhers who may have been successful in selling their cloth supply themselves with next week's

[1] Extracts and figures taken from the description of this fair by Mr Rivett-Carnac, *Report of the Cotton Department for the year* 1867-8, pp. 28-31.

[2] Not a proper weaver caste but a low caste of village menials, corresponding to the 'Mahar' of the Bombay Deccan.

work of spinning and weaving'. It should be noted that of the 350 coarse weavers only forty-four were regular traders. 'The remainder were of a poorer class, who brought small bundles of cloth on their back and whose sales were small.' The influence of the constitution of the village community is apparent. There are seventy-five sellers of iron in large quantities; these were the traders who distributed the supply of iron for cart-wheels and plough-shares throughout the country; there were similarly fifteen stalls of carpenters with stores of unworked wood for carts; there were only fourteen stalls of shoe or leather sellers and only three sellers of earthen pots.

Mr Rivett-Carnac observes with regard to the popularity of country cloth, 'This, it must be remembered, is but one of the many places to which the peasantry flock for the cloth made by Dhers.'

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